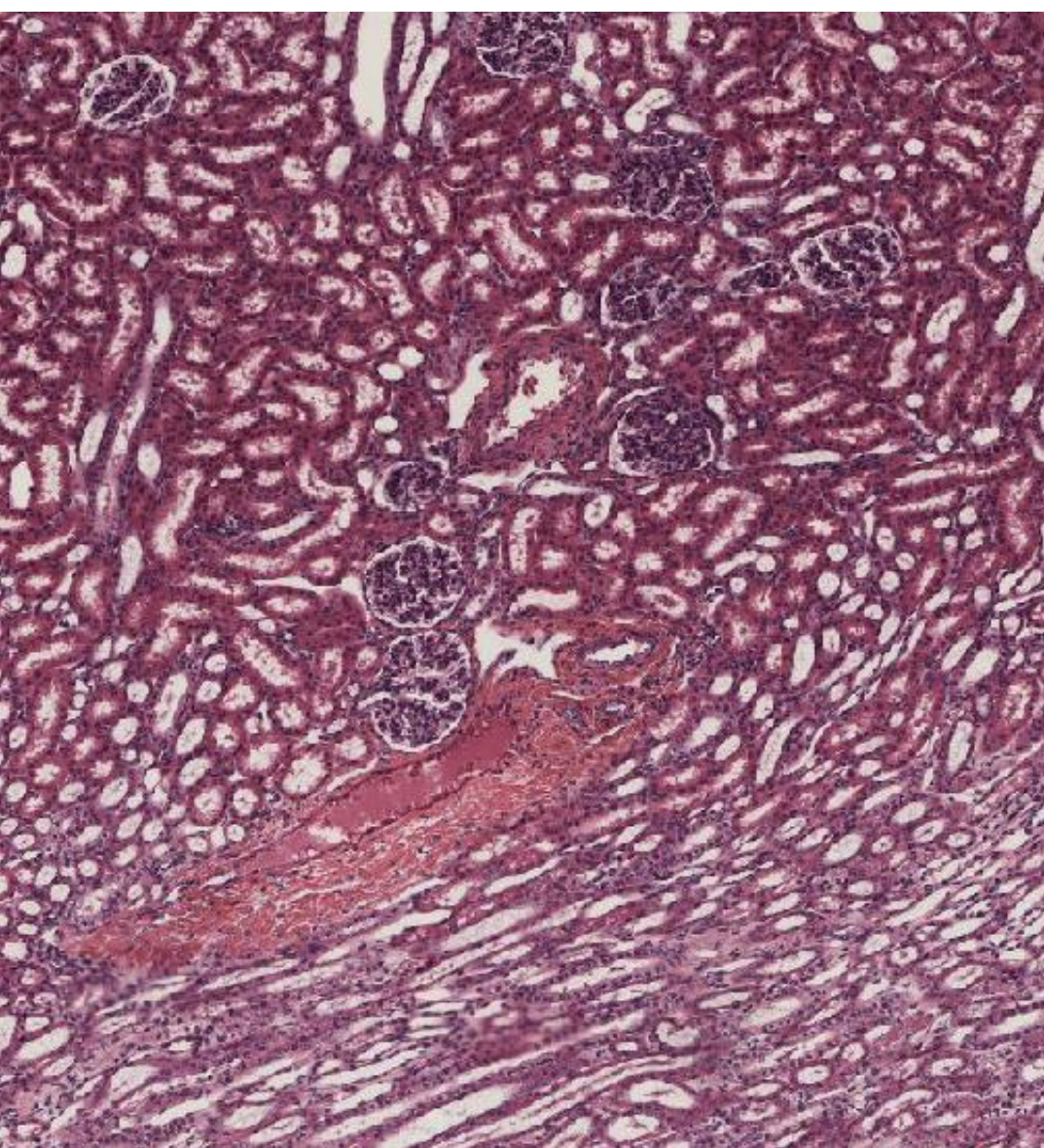
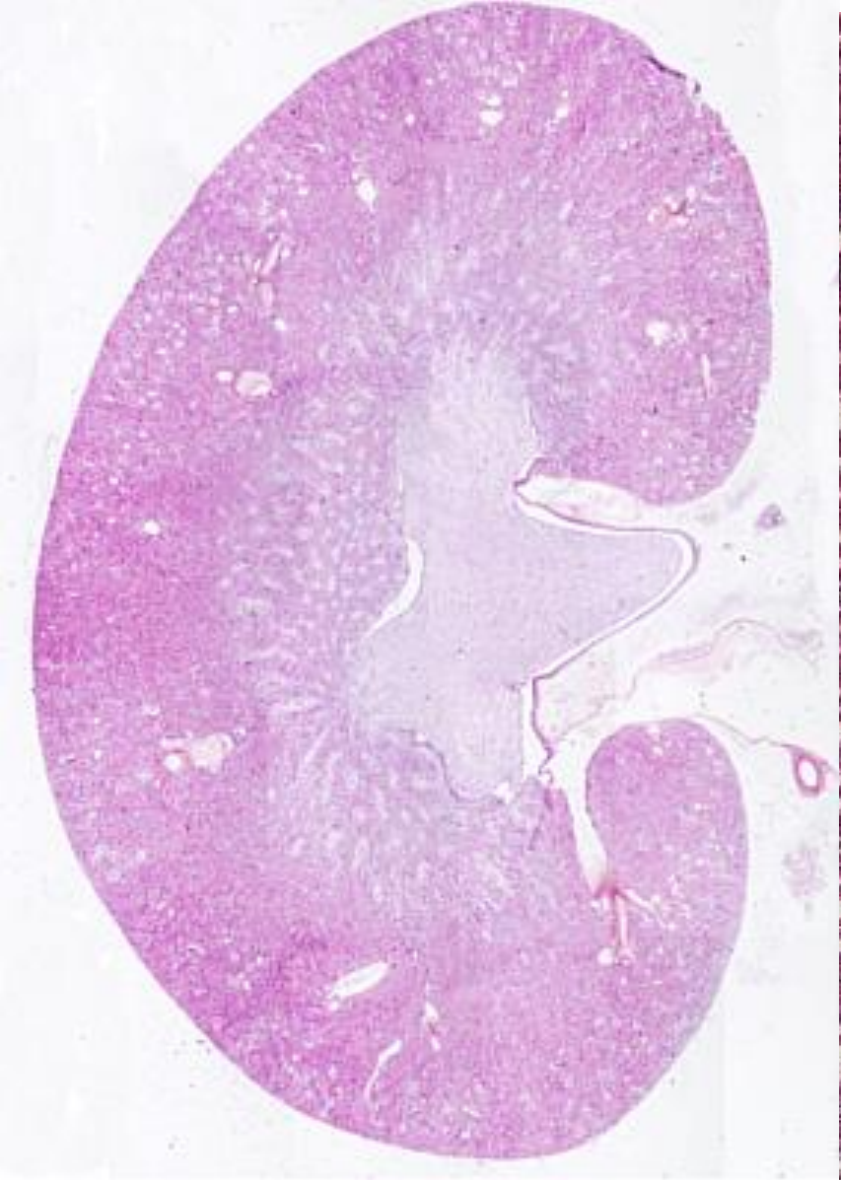
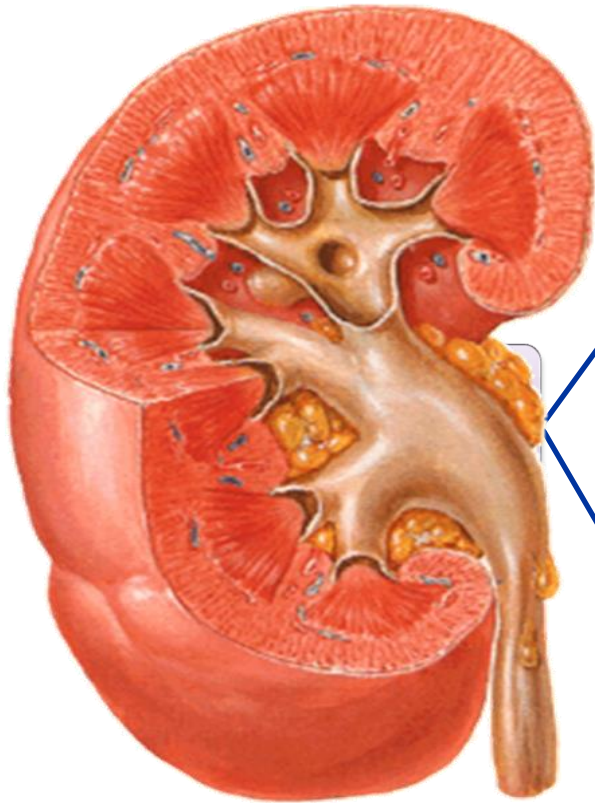




Sistema urinario

Riñón y vías urinarias



Estroma

Cápsula

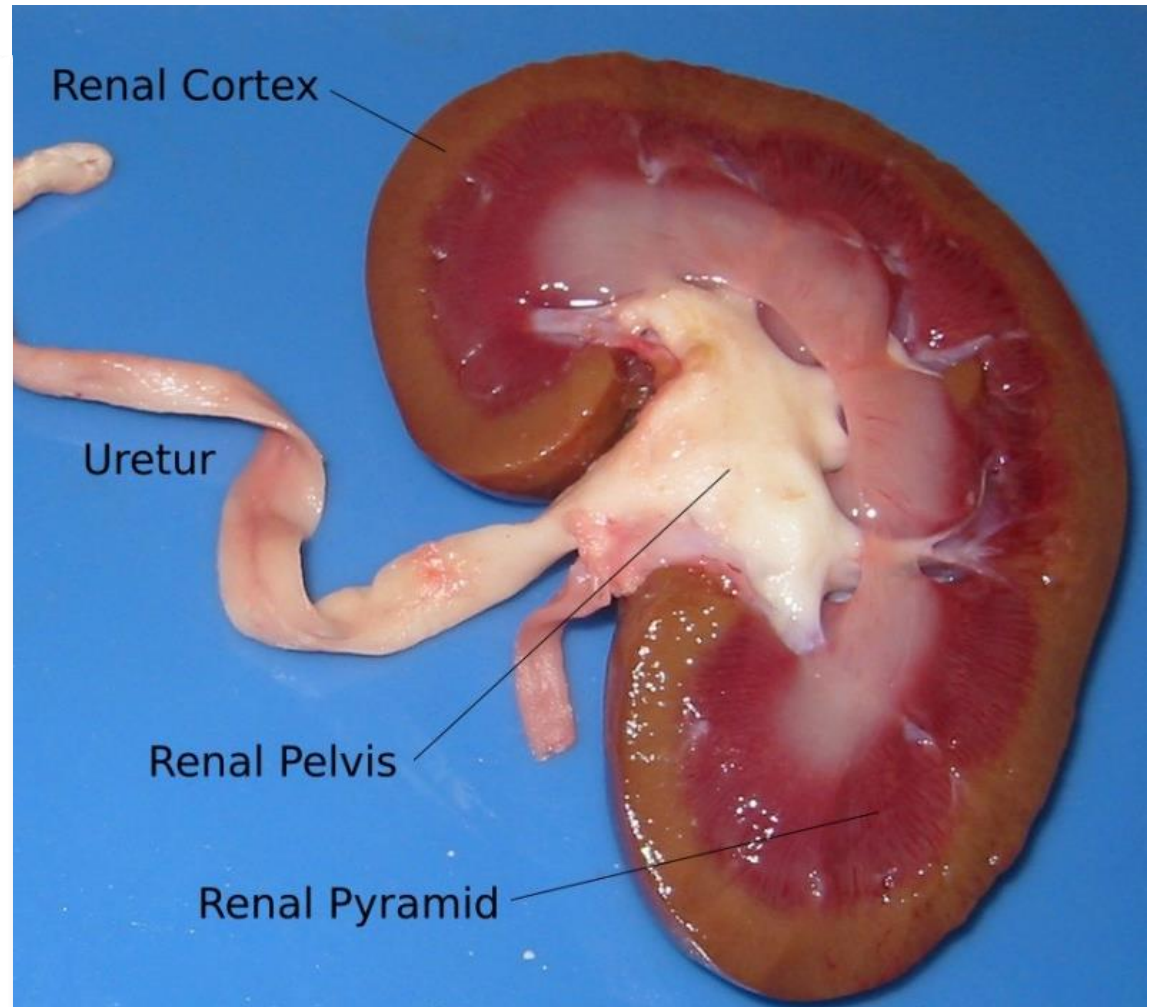
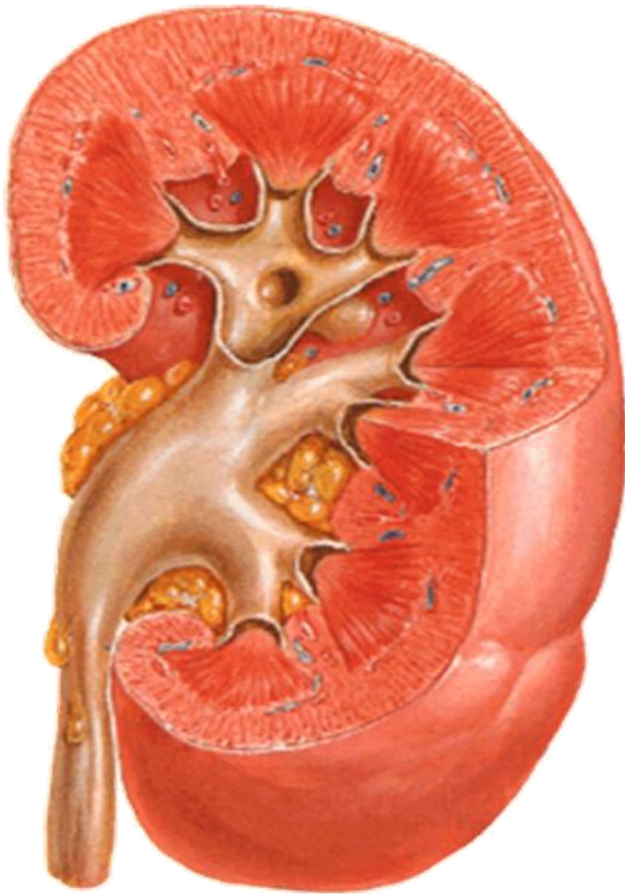
Tejido
intersticial

Parénquima

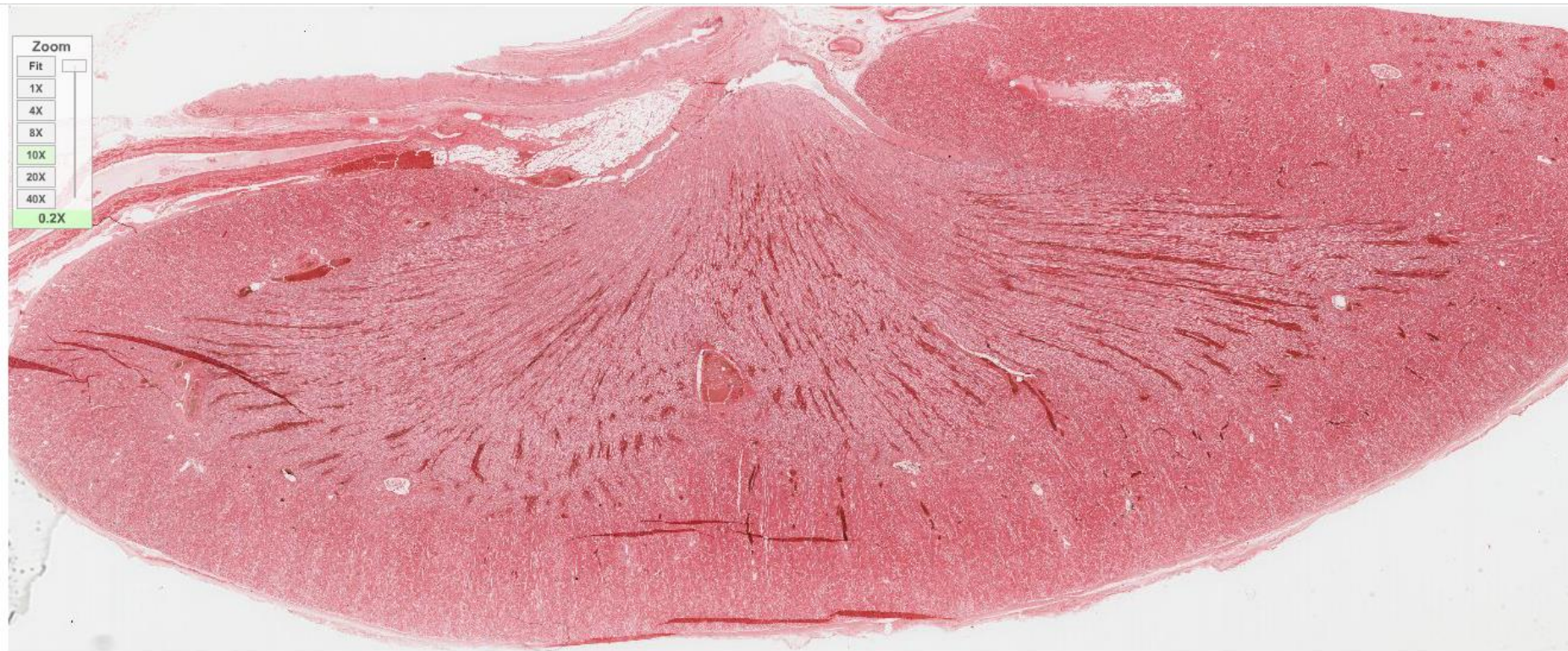
Corteza

Médula

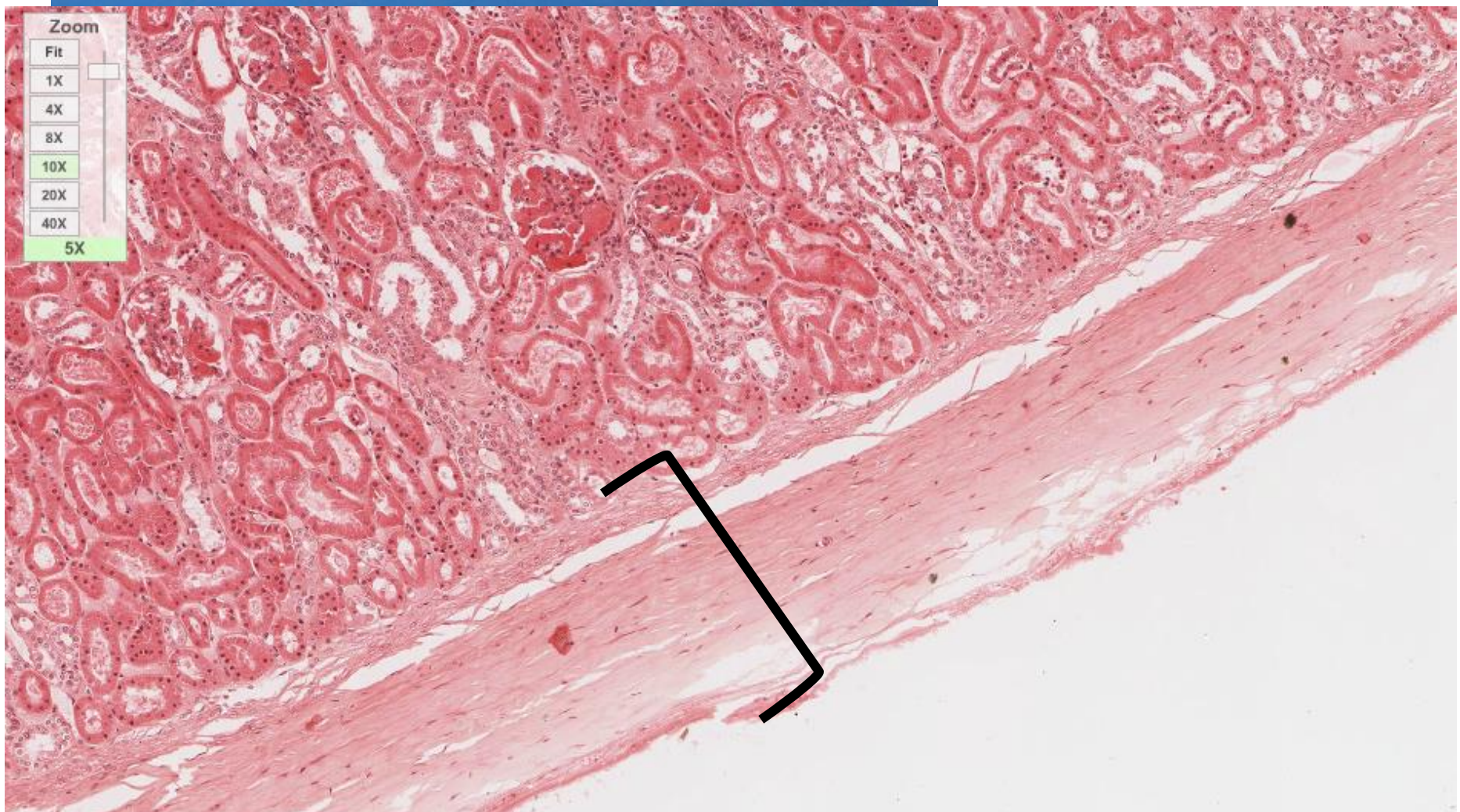
Histología renal



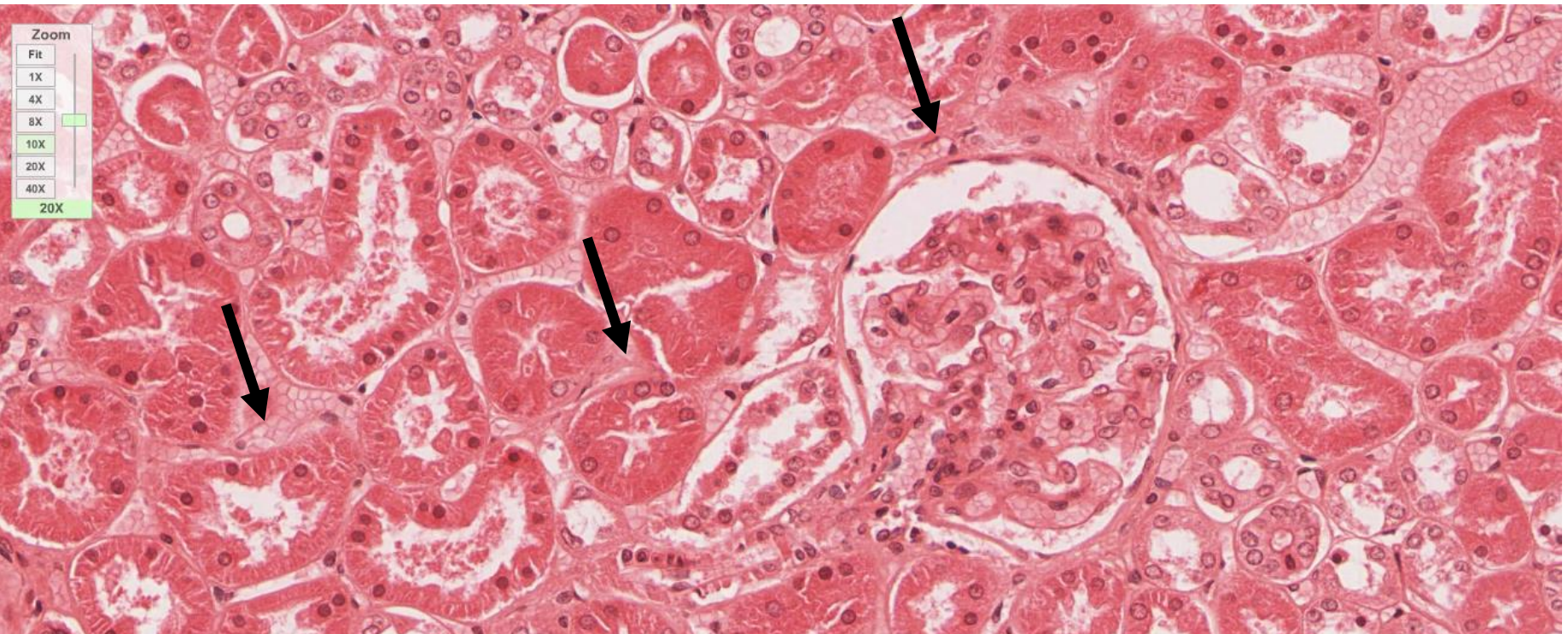
Histología renal



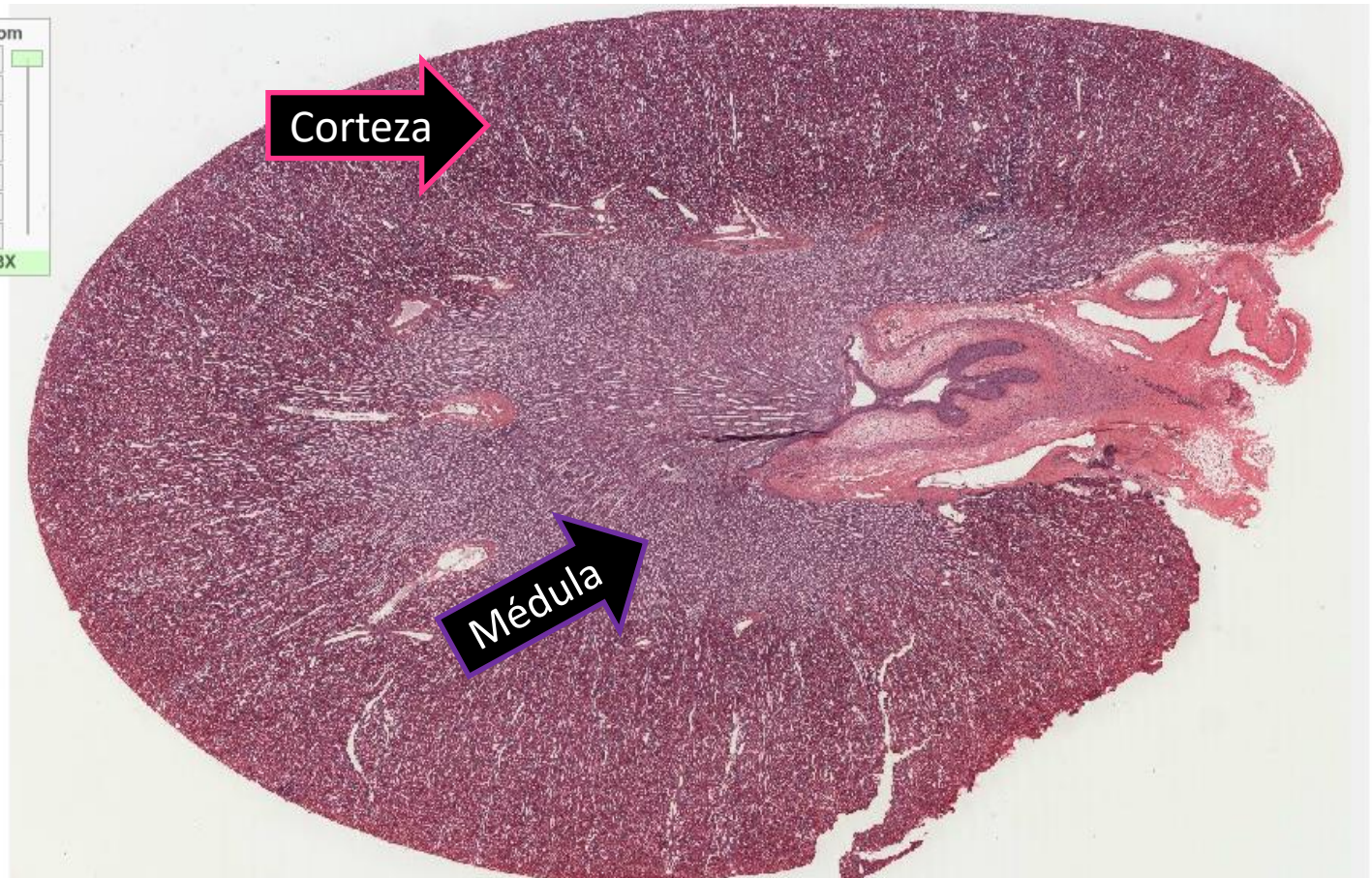
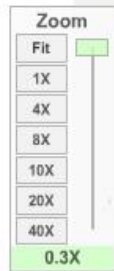
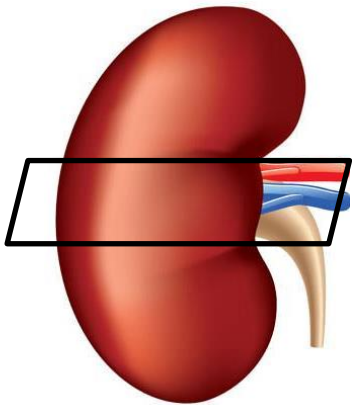
Estroma: Cápsula



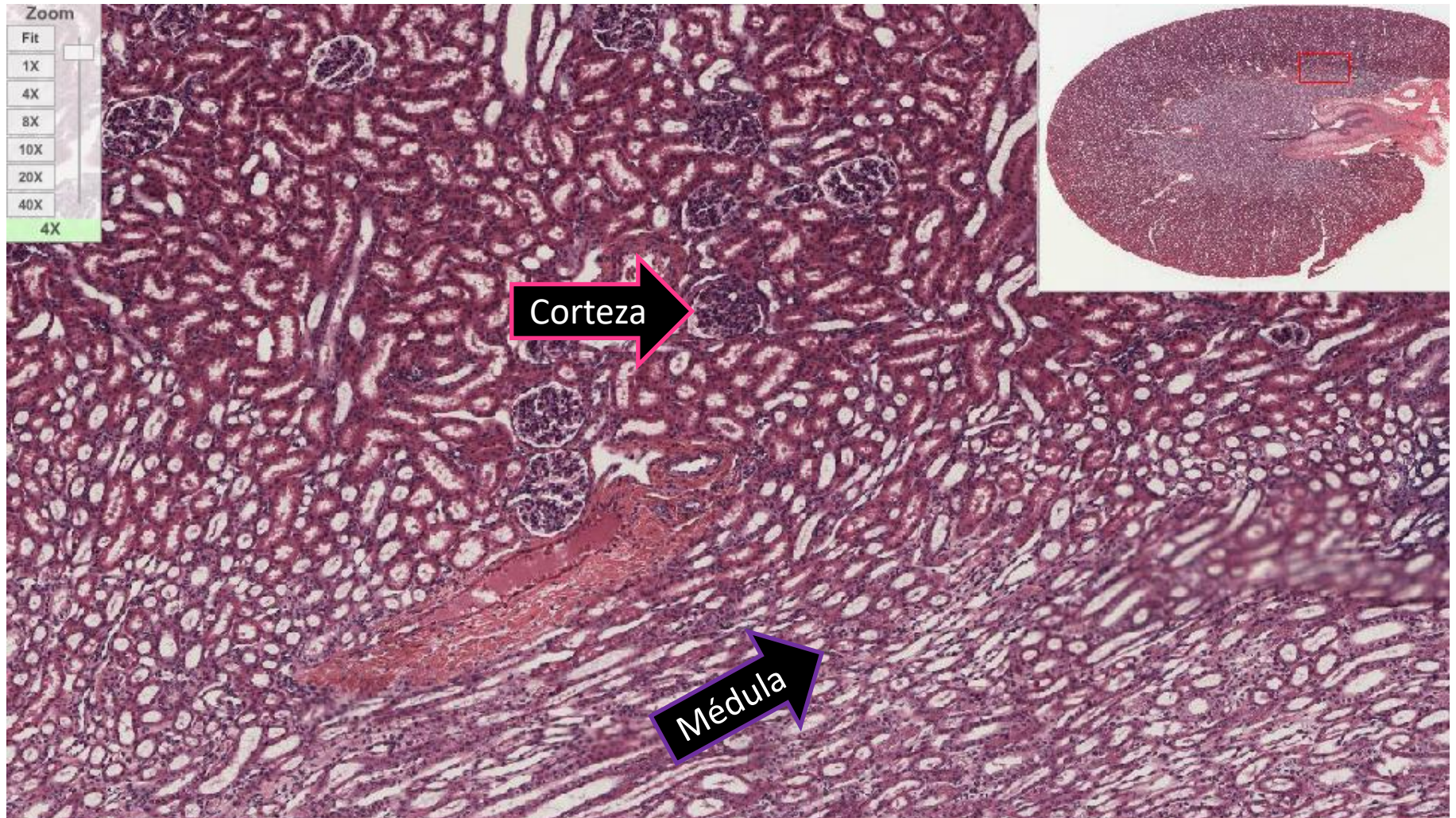
Estroma: Tejido intersticial



Parénquima renal



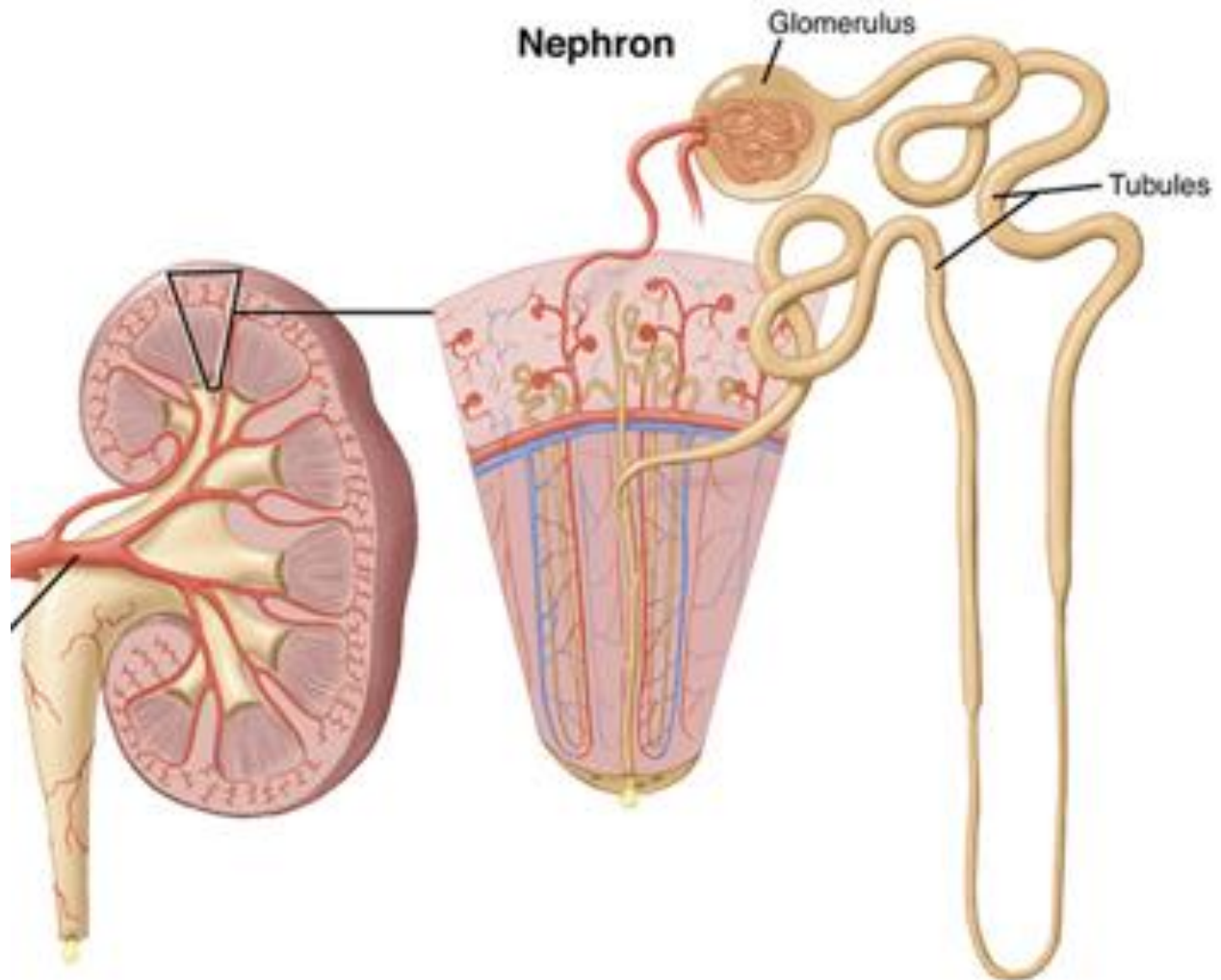
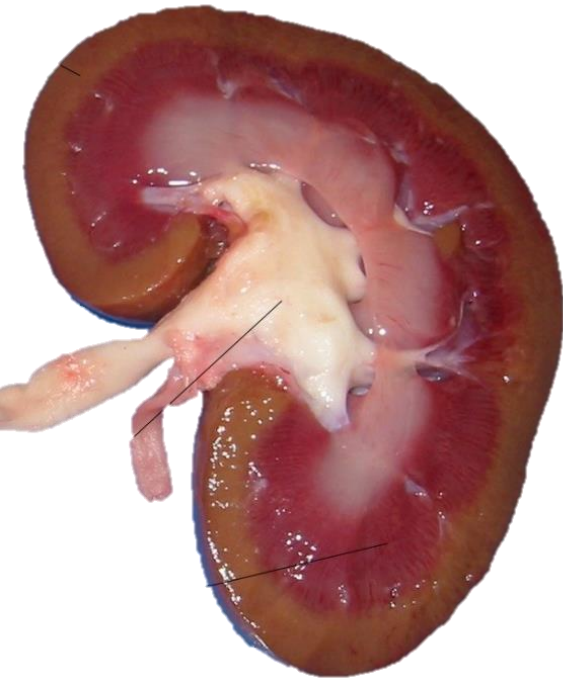
Parénquima renal



Parénquima renal Componentes

Nefrona

- Unidad filtración

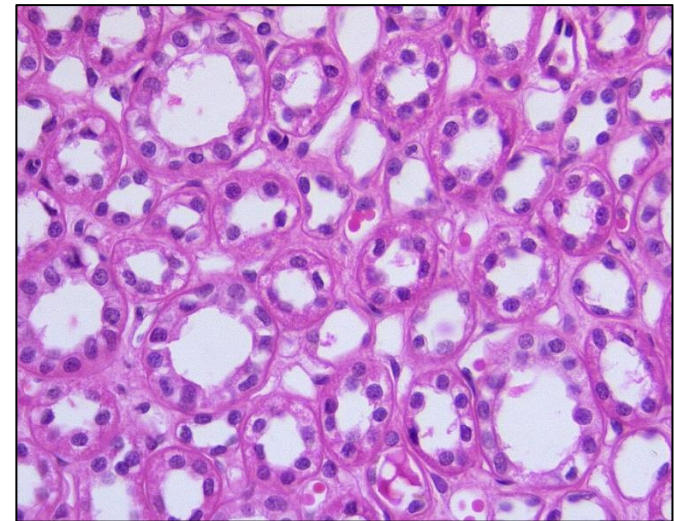
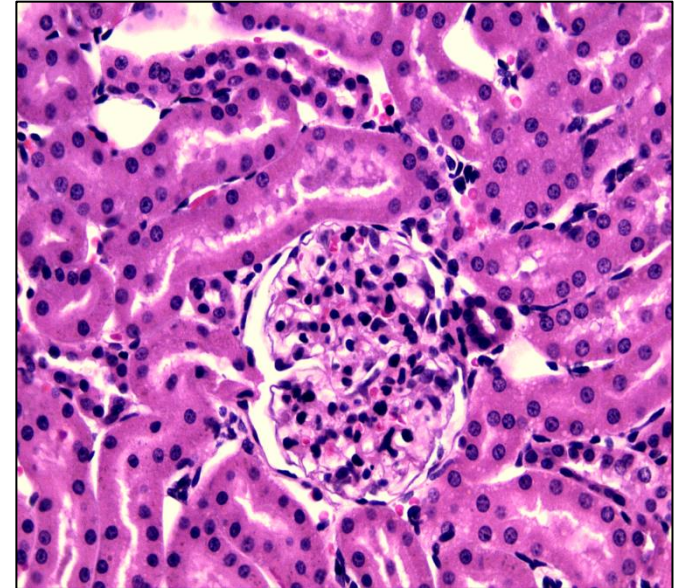
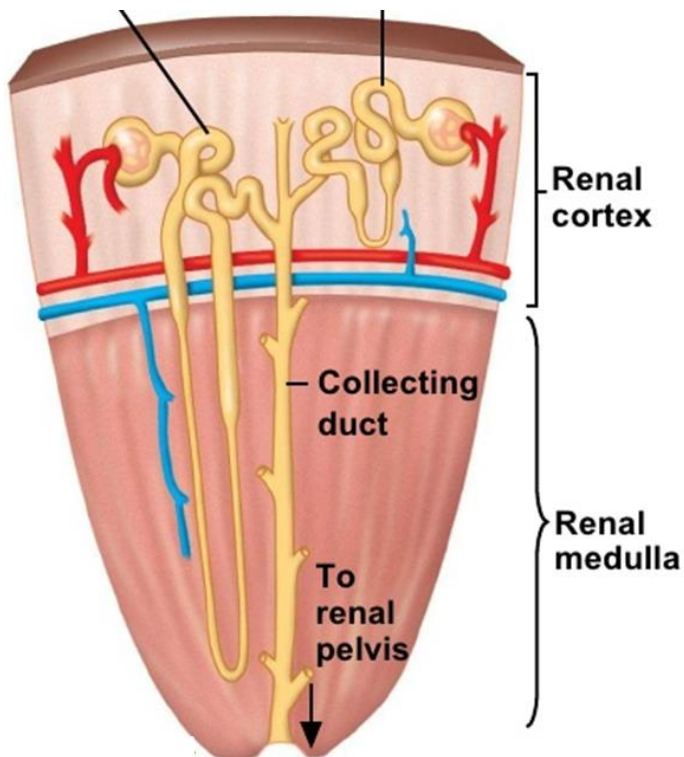


Aprox. 2 millones de nefronas por riñón

Parénquima renal

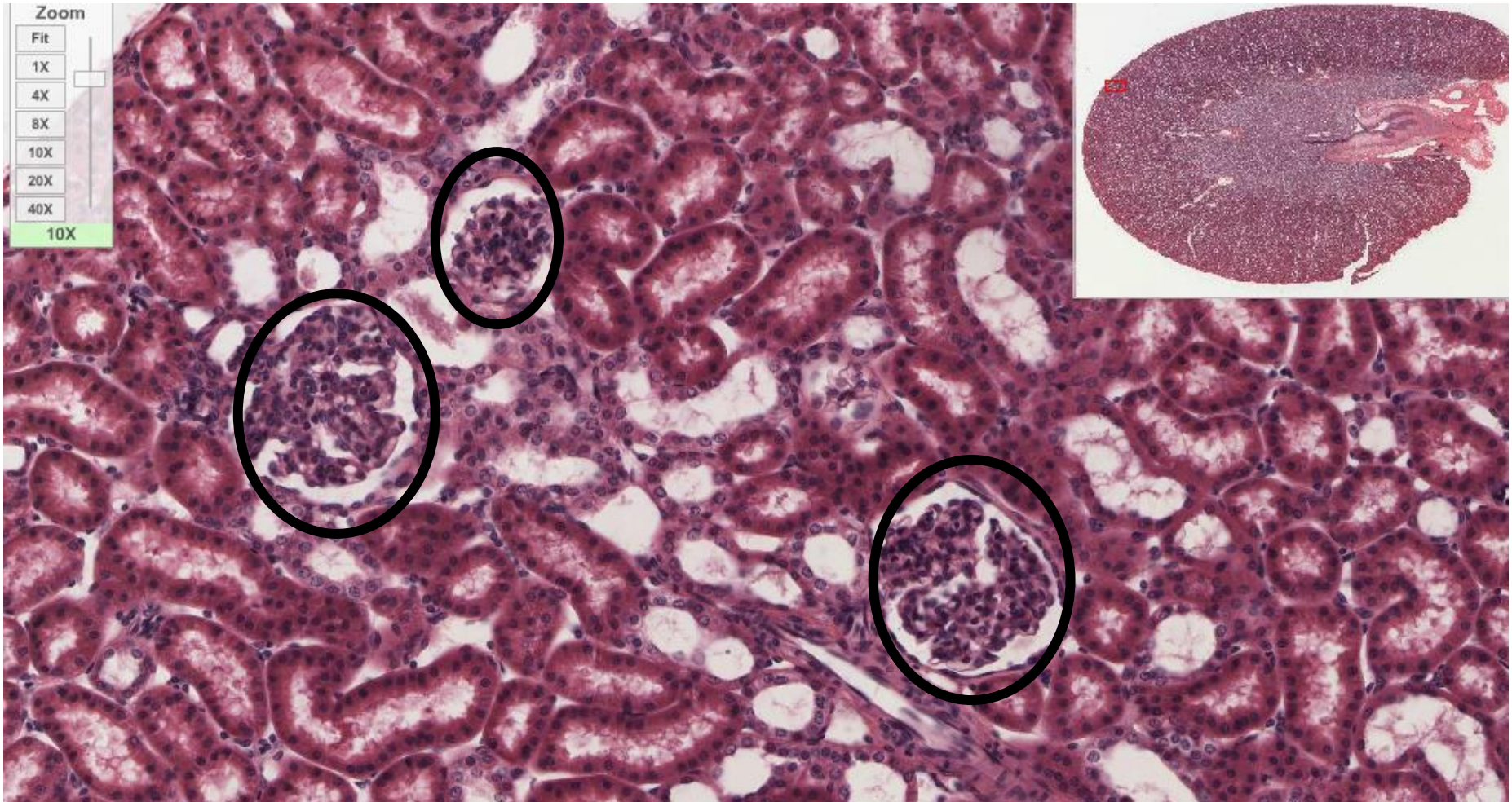
Nefrona: Componentes

1. Corpúsculo renal
2. Sistema de túbulos



Nefrona

Corpúsculo renal

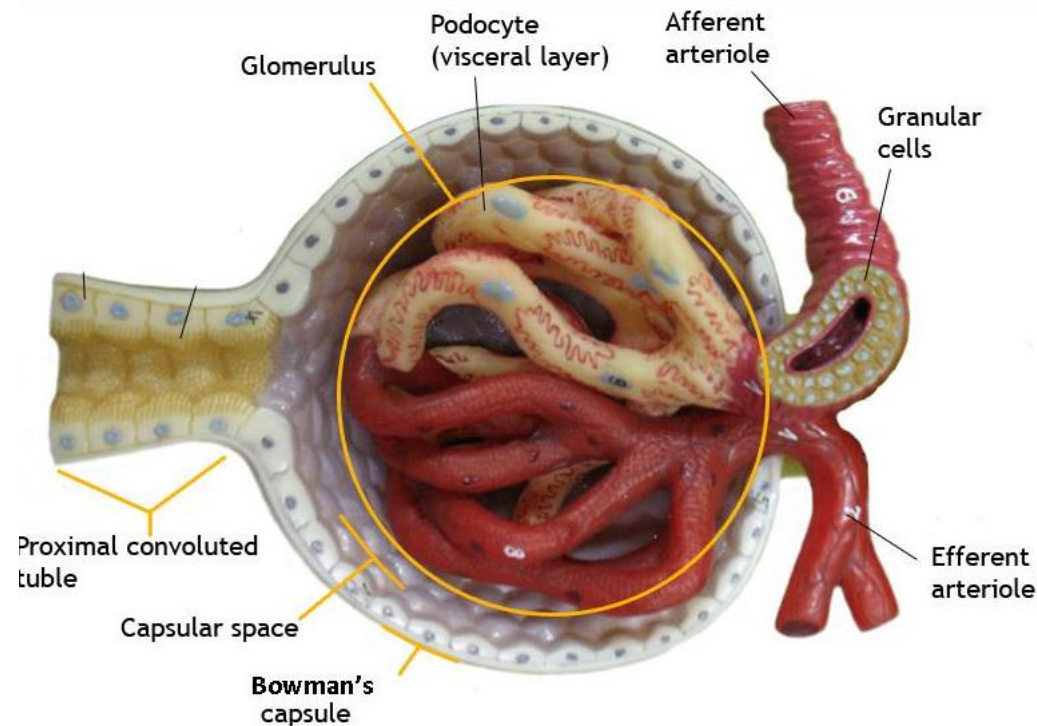


Nefrona

Corpúsculo renal

Partes

1. Cápsula de Bowman
 - Hoja parietal
 - Hoja visceral
2. Espacio urinario
3. Glomérulo renal
4. Polo vascular
5. Polo urinario

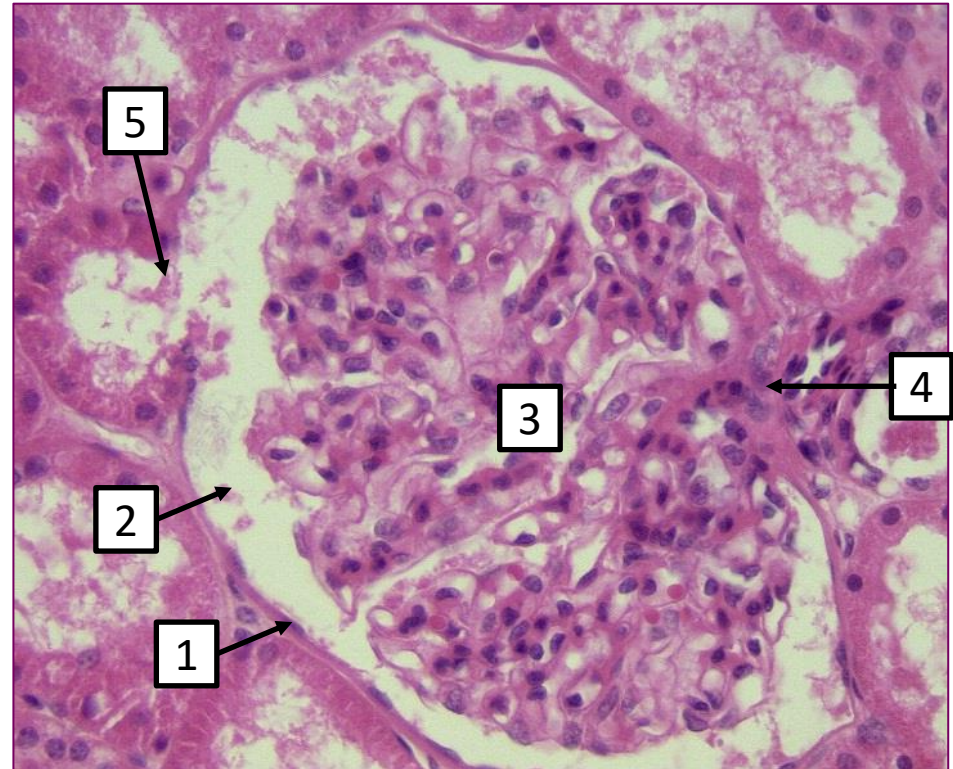


Nefrona

Corpúsculo renal

Partes

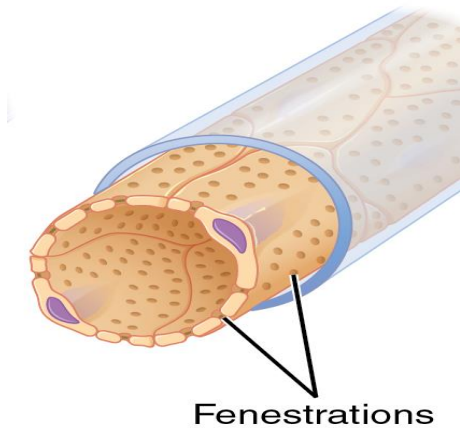
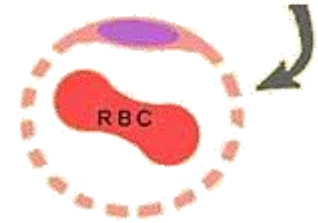
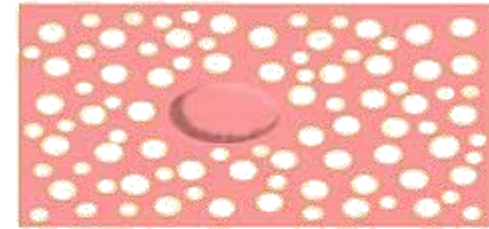
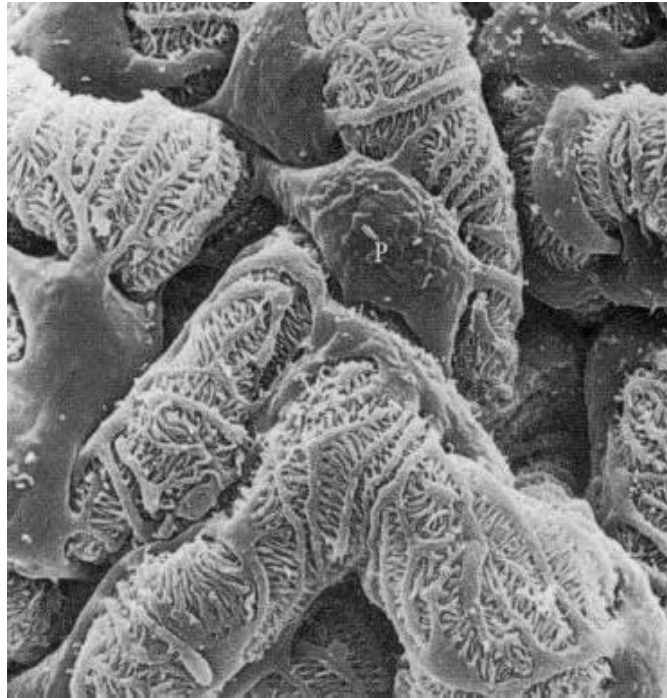
1. Cápsula de Bowman
 - Hoja parietal
 - Hoja visceral
2. Espacio urinario
3. Glomérulo renal
4. Polo vascular
5. Polo urinario



Corpúsculo renal

Glomérulo

- Capilares fenestrados
- Podocitos
- Mesangio

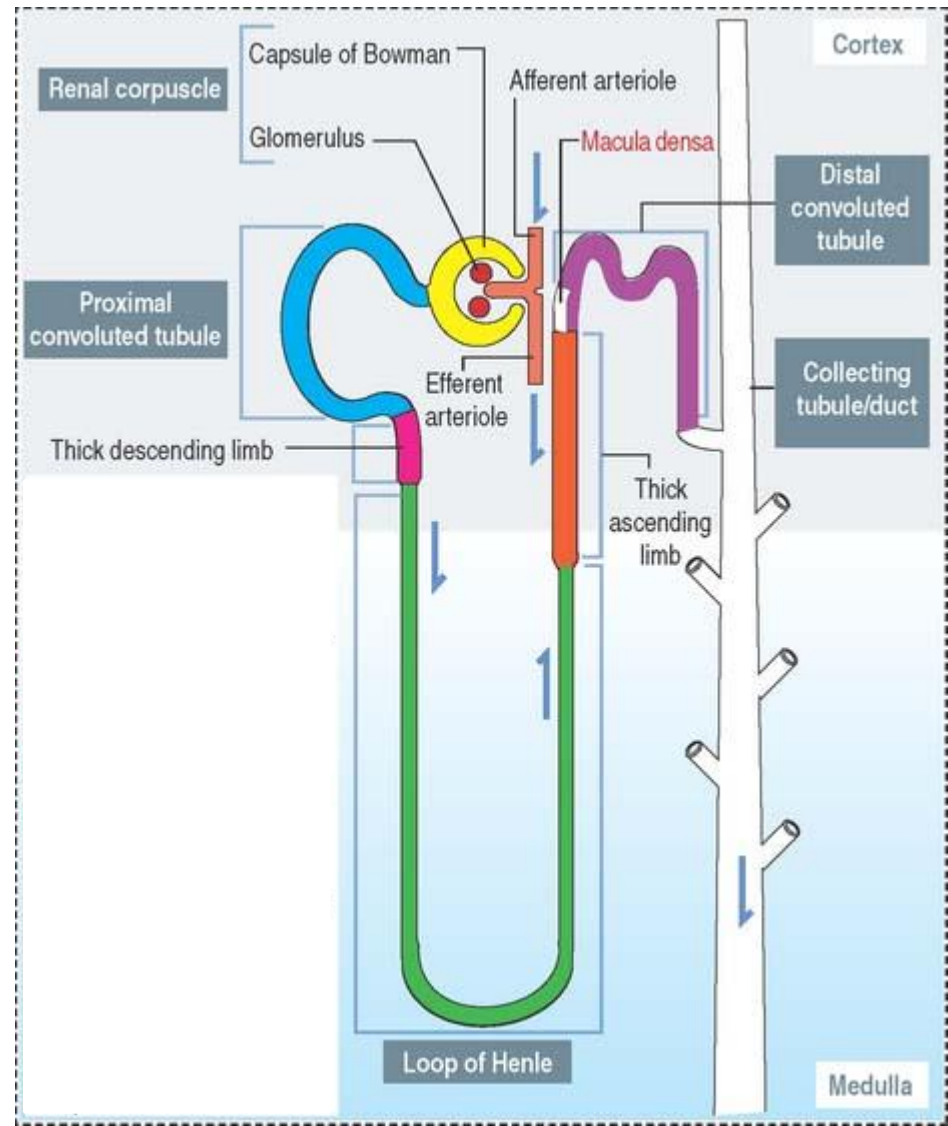


Nefrona

Sistema de túbulos

5-7mm de longitud

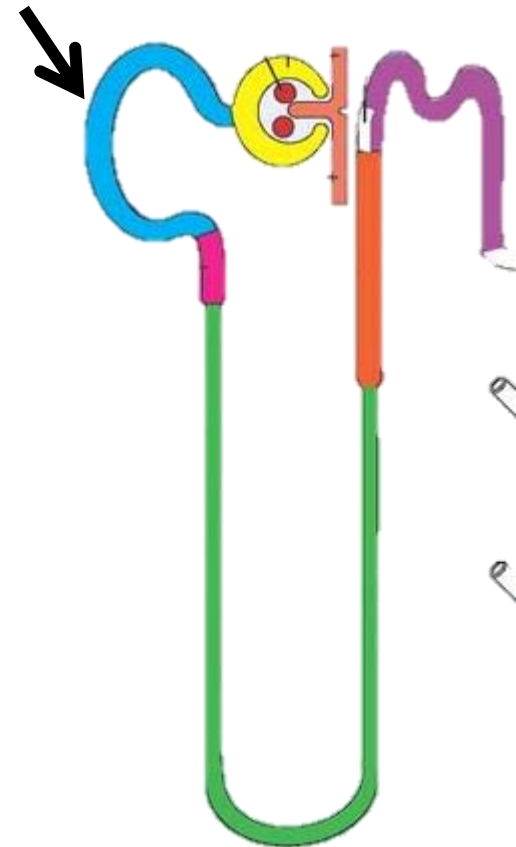
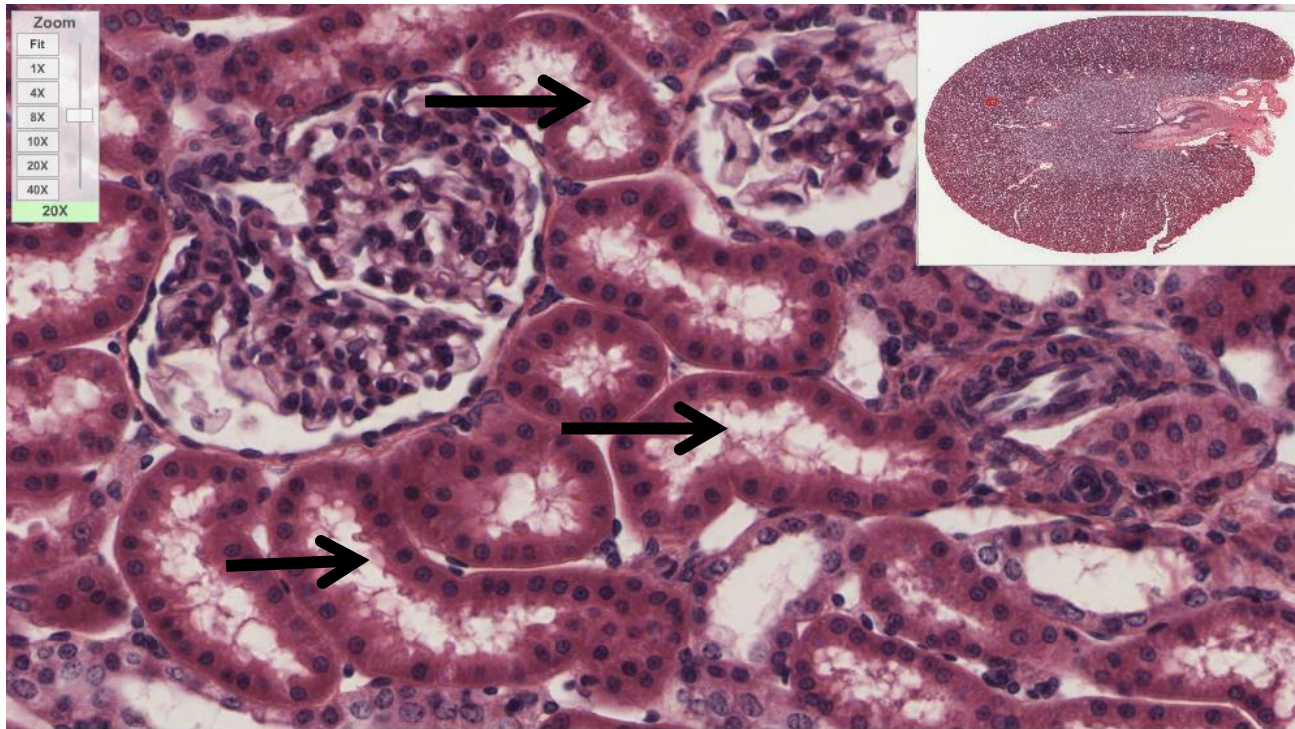
1. Túbulo proximal
 - Contorneado
 - Recto
2. Asa Henle
3. Túbulo distal
 - Recto
 - Contorneado



Nefrona

Sistema de túbulos

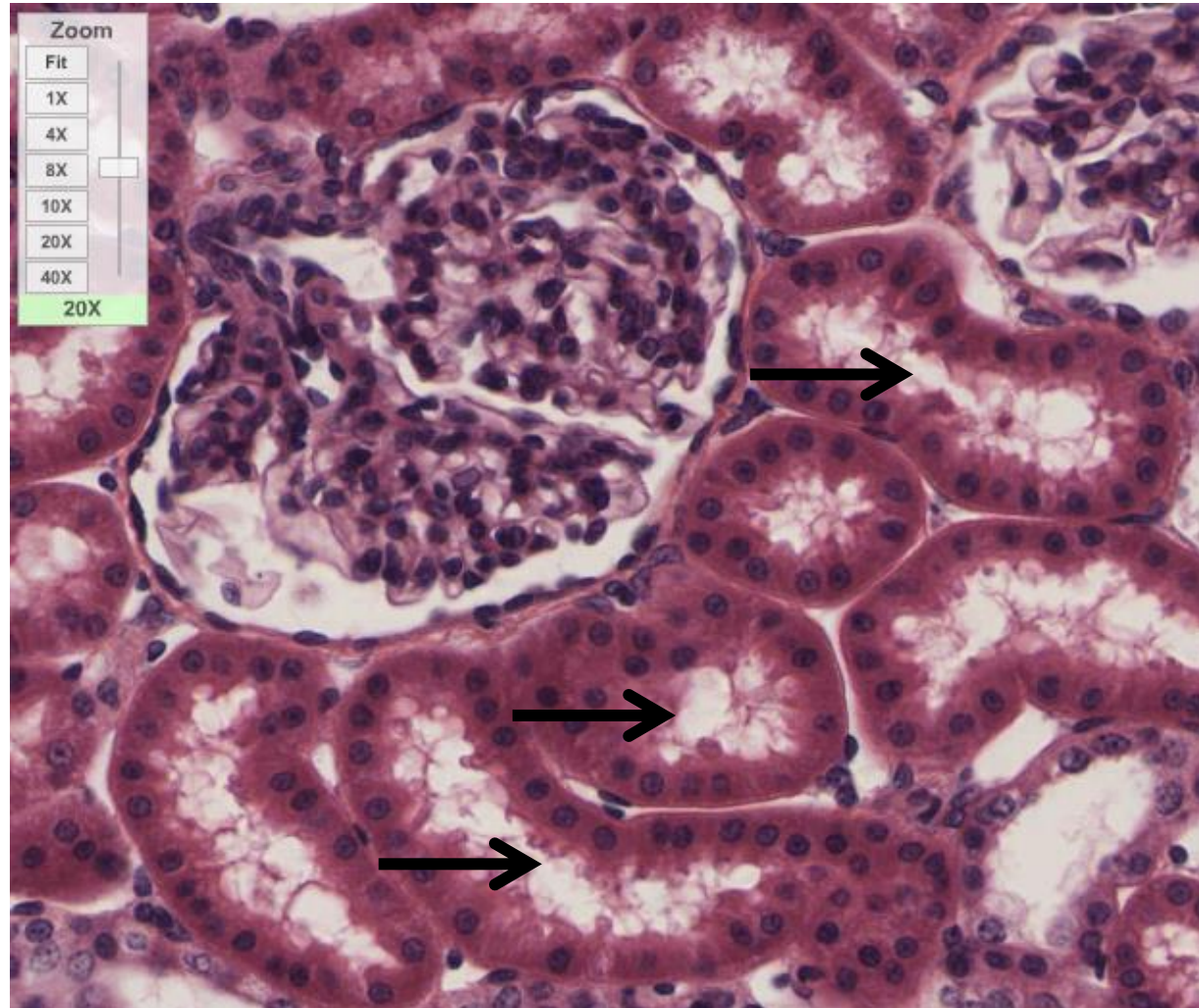
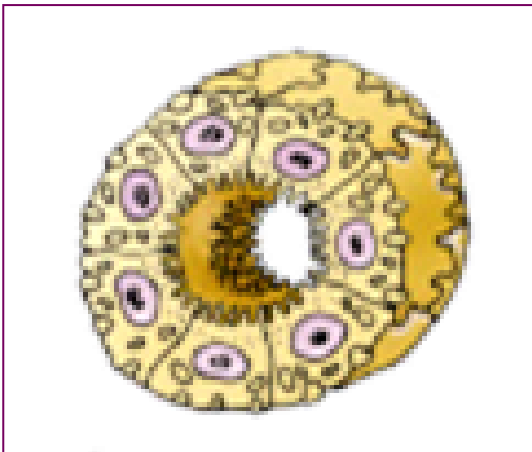
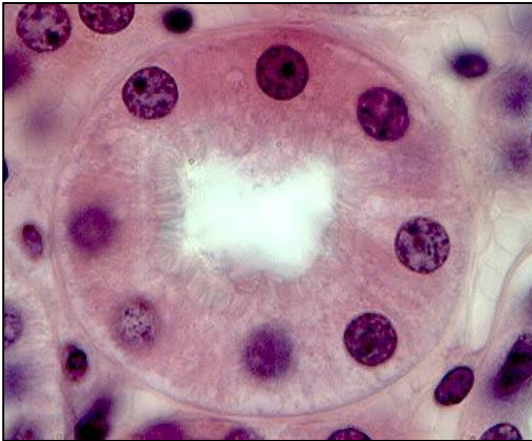
Túbulo proximal



Nefrona

Sistema de túbulos

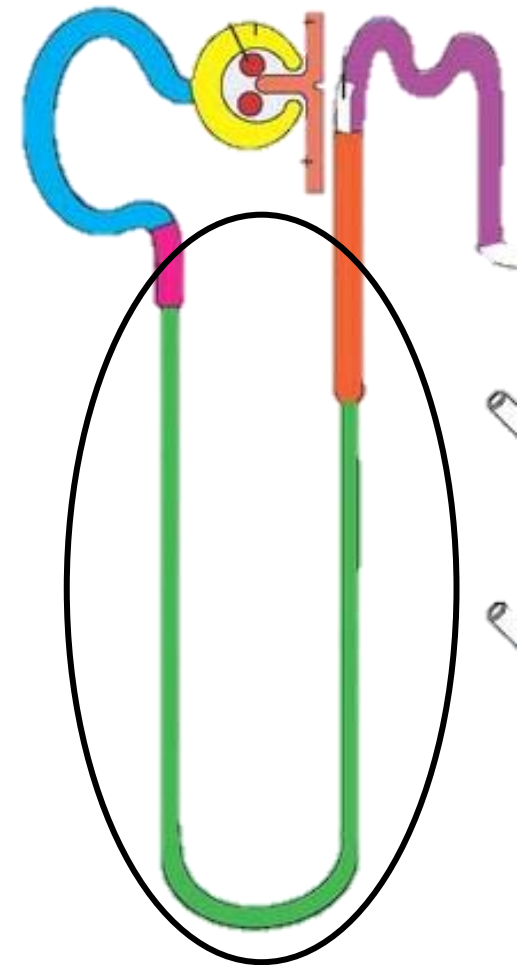
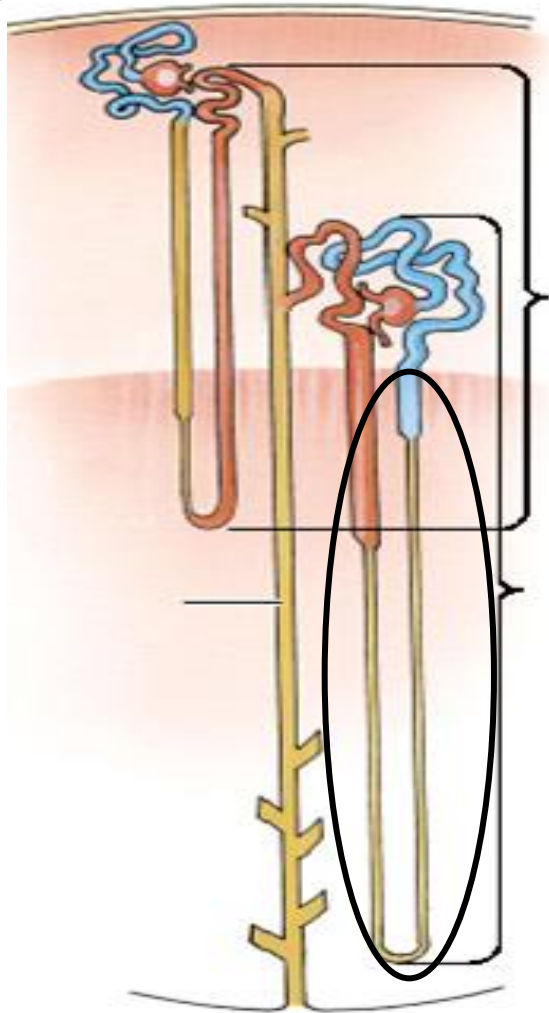
Túbulo proximal



Nefrona

Sistema de túbulos

Asa de Henle

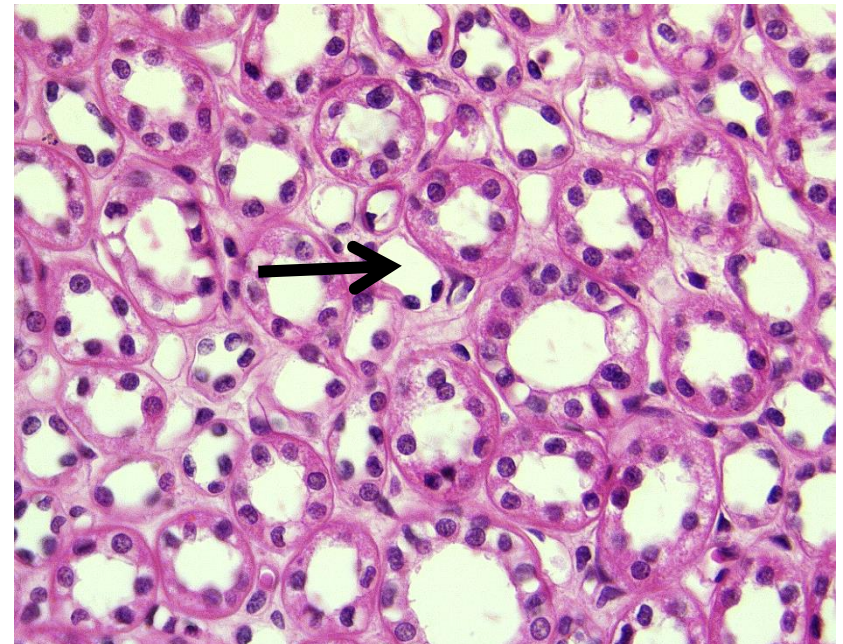
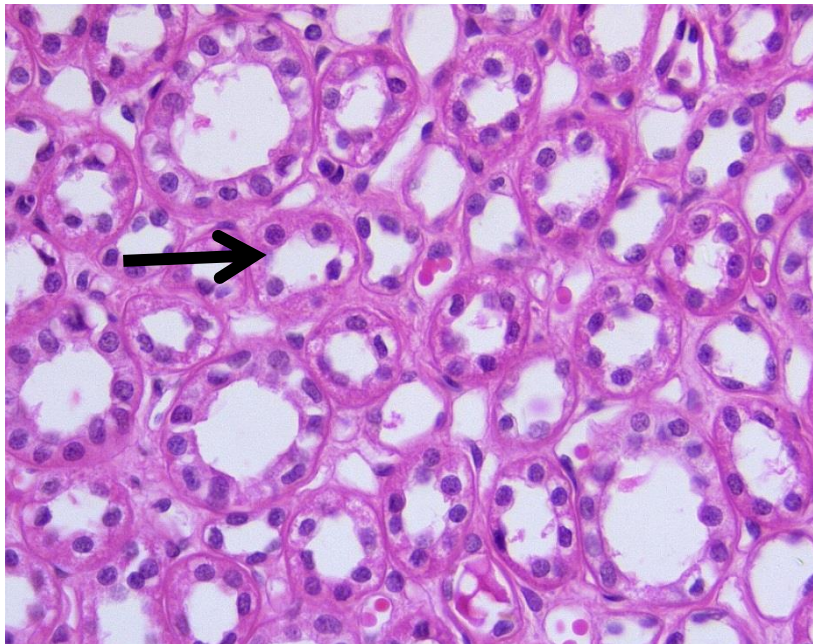
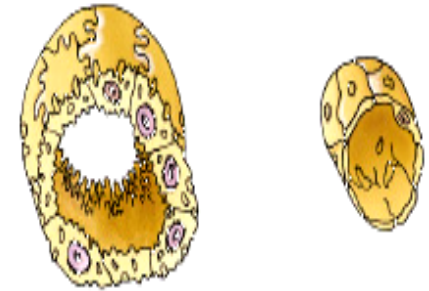


Nefrona

Sistema de túbulos

Asa de Henle

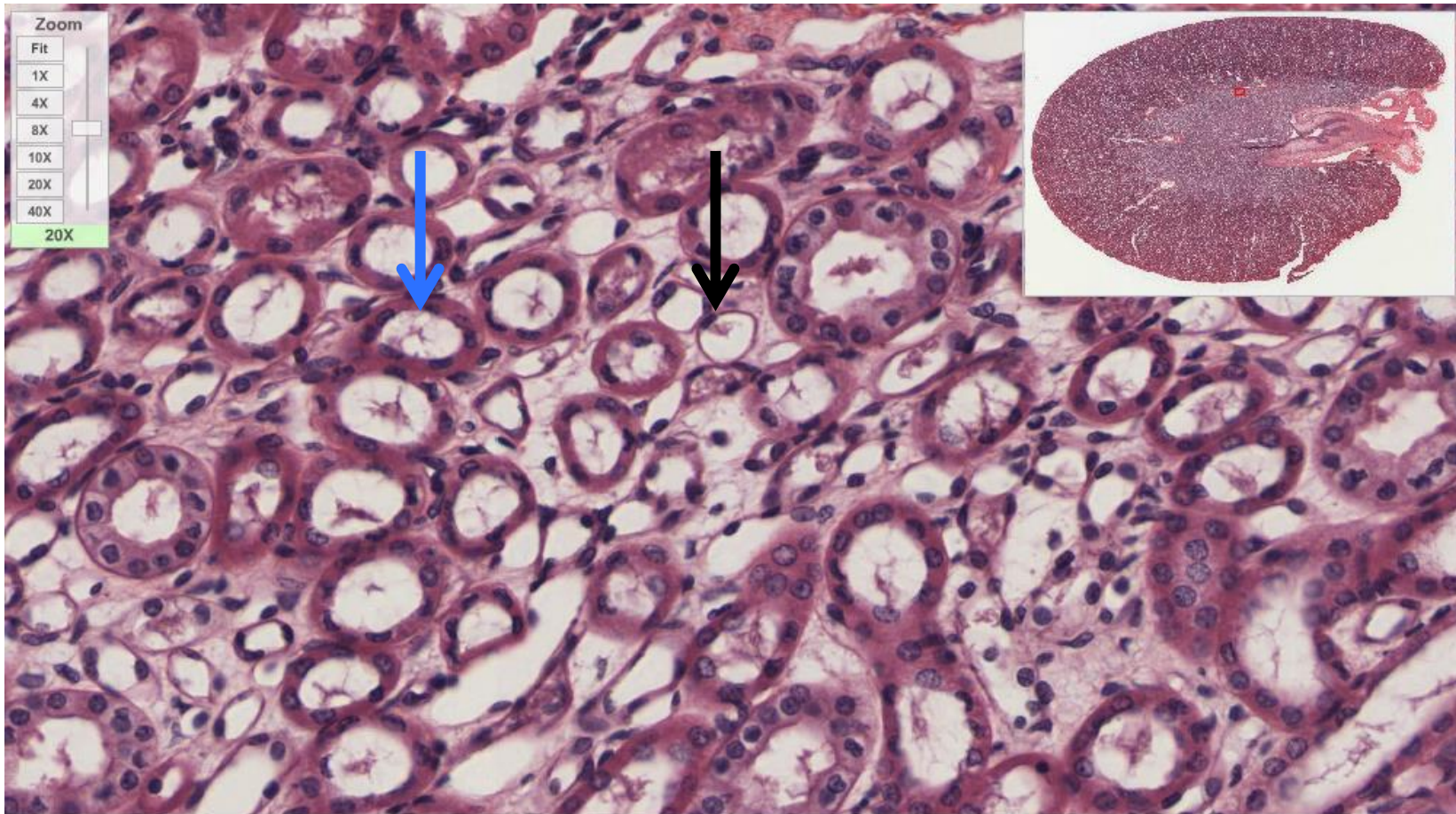
1. Segmentos gruesos : Epitelio cúbico simple
2. Segmentos delgados: Epitelio plano simple



Nefrona

Sistema de túbulos

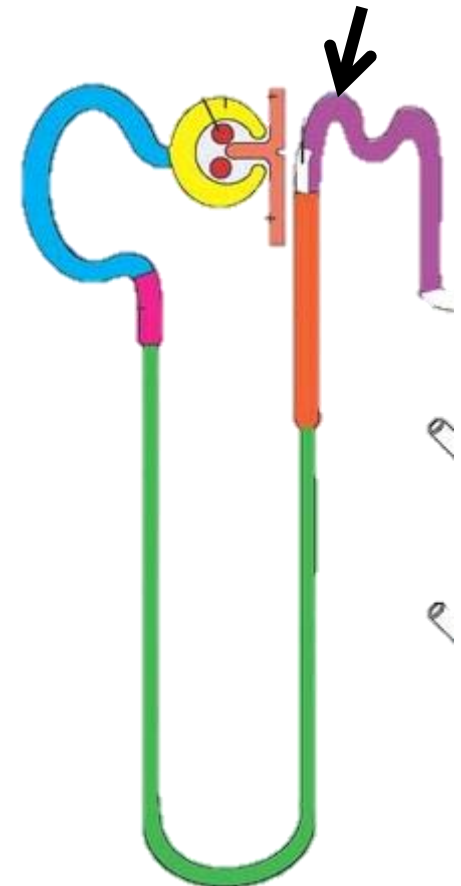
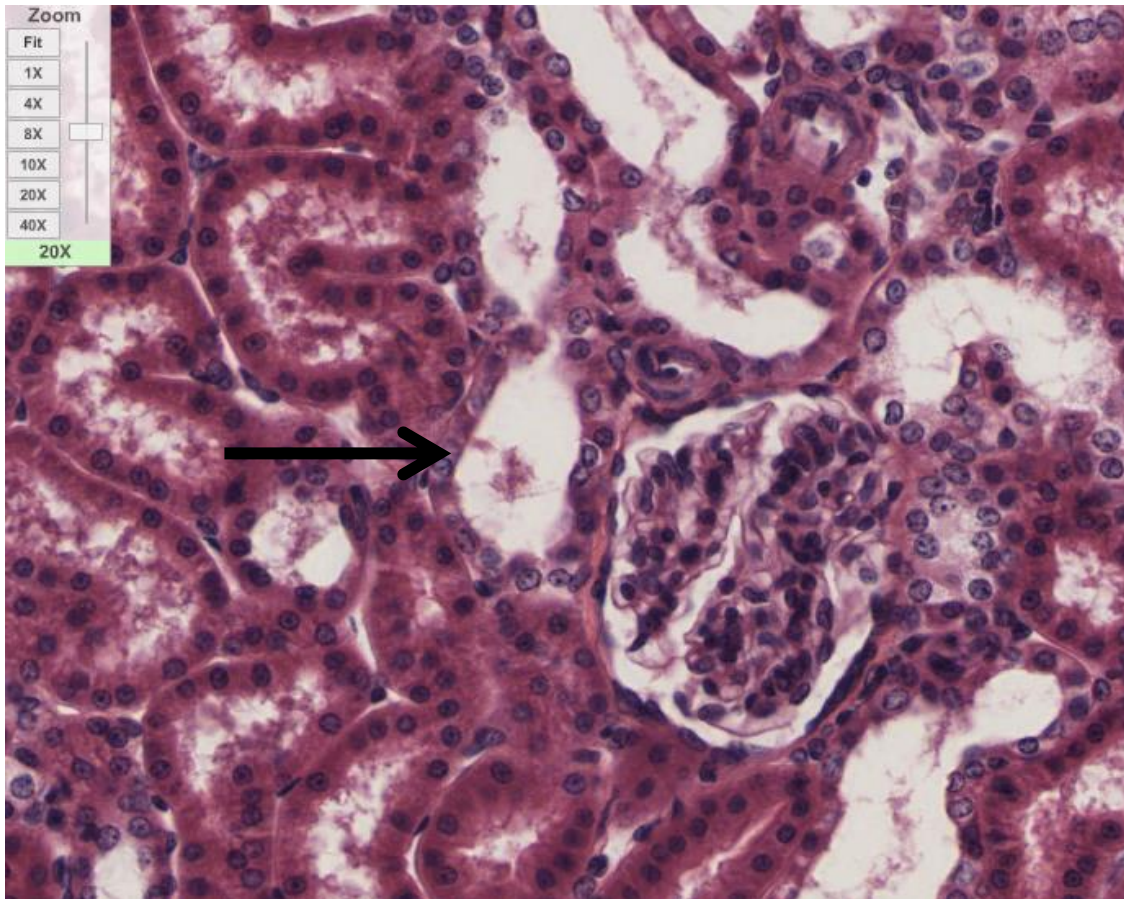
Asa de Henle



Nefrona

Sistema de túbulos

Túbulo distal



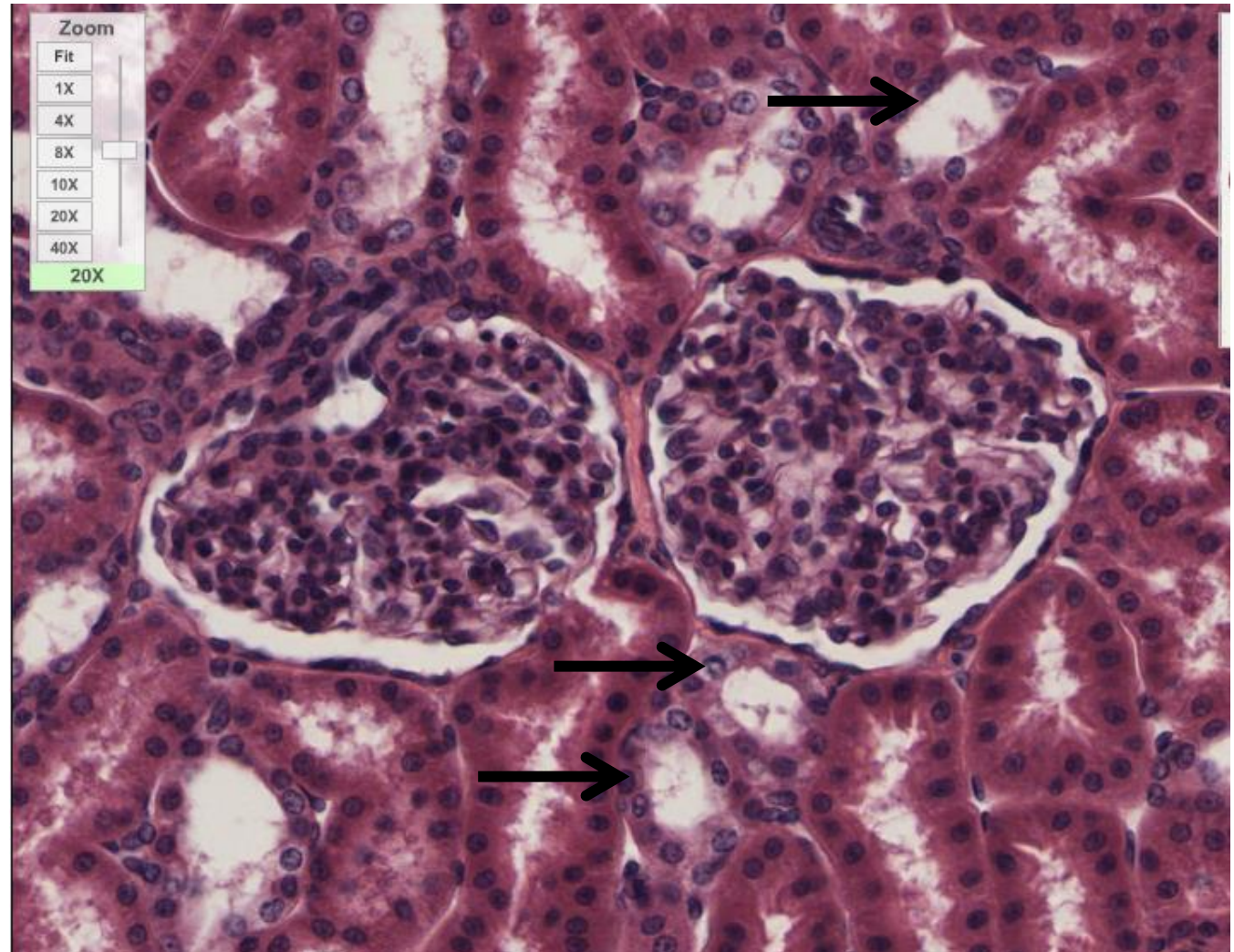
Nefrona

Sistema de túbulos

Túbulo distal



Función
Reabsorción

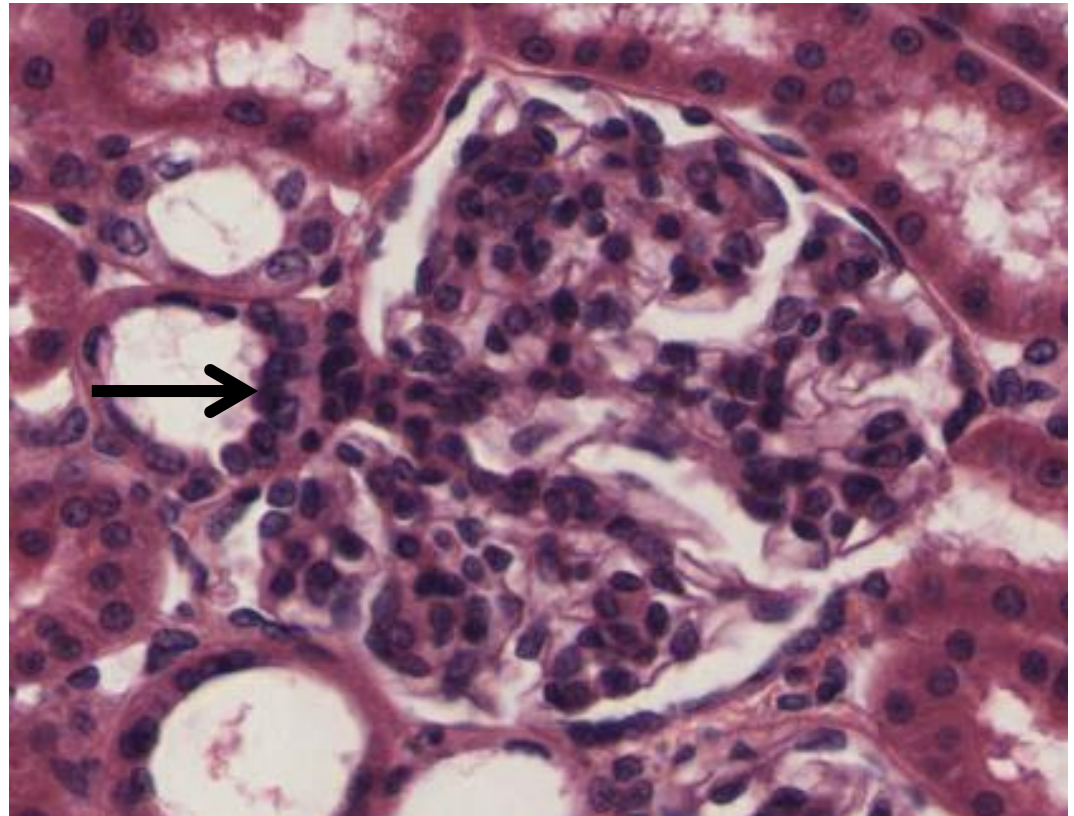
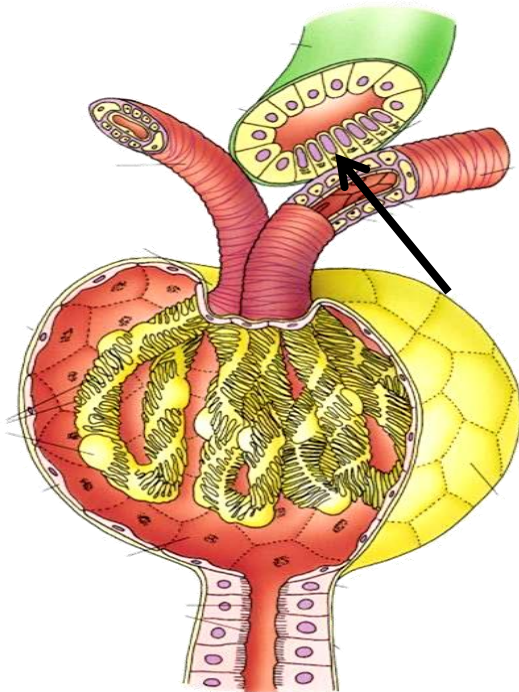


Nefrona

Sistema de túbulos

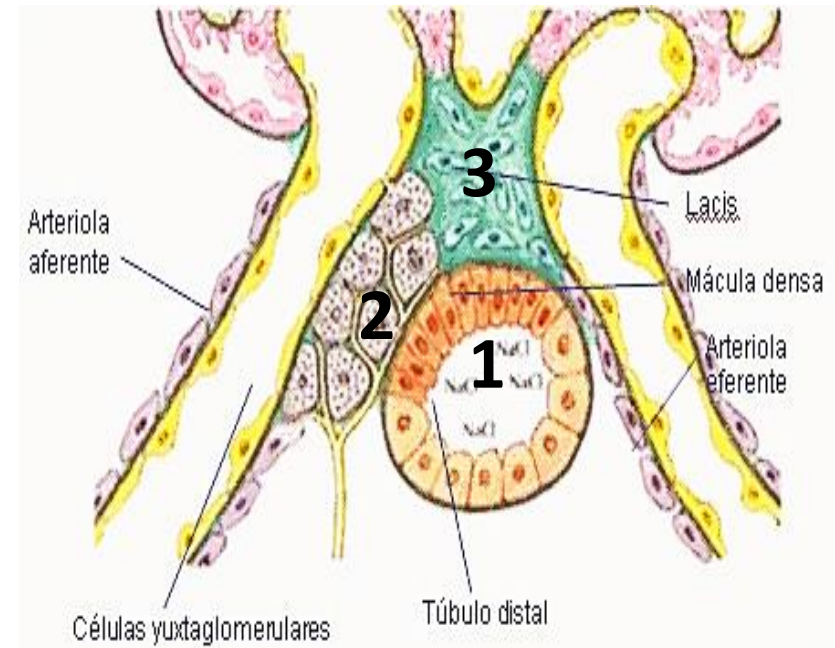
Túbulo Distal- Macula densa

1. Células angostas y altas
2. Núcleos próximos

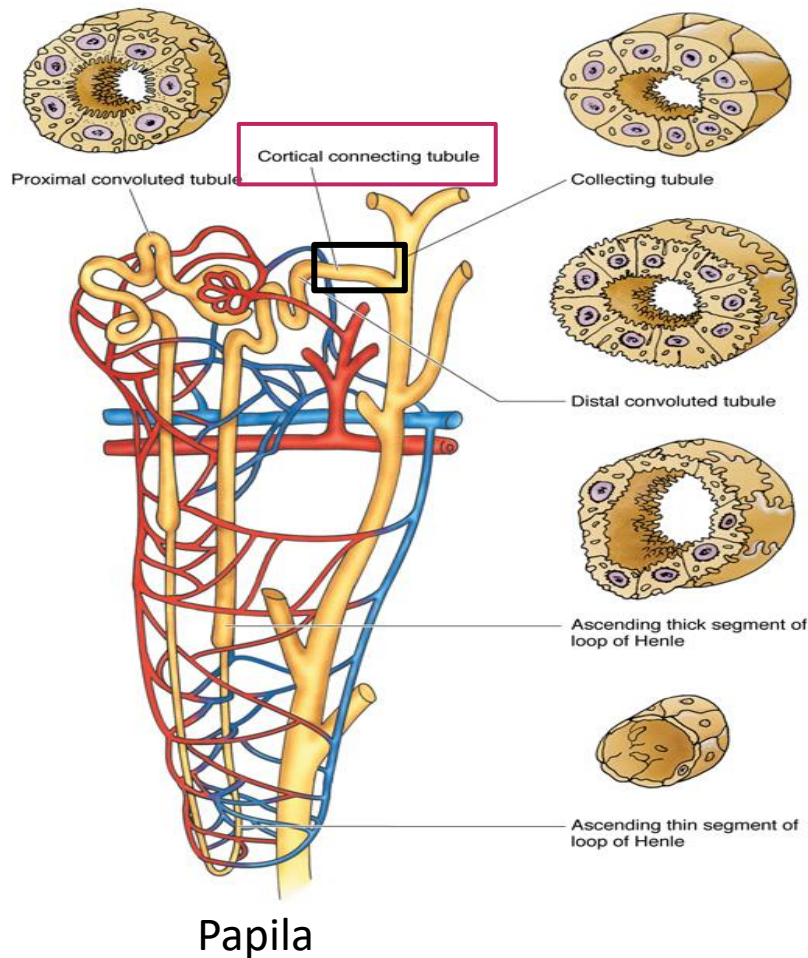


Aparato yuxtaglomerular

1. Mácula densa del túbulo distal
2. Células yuxtaglomerulares productoras de renina
3. Células mesangiales extraglomerulares (Lacis)
 - Fagocitosis
 - Vasoconstricción
 - Receptores angiotensina II



Sistema colector



No forma parte de la nefrona

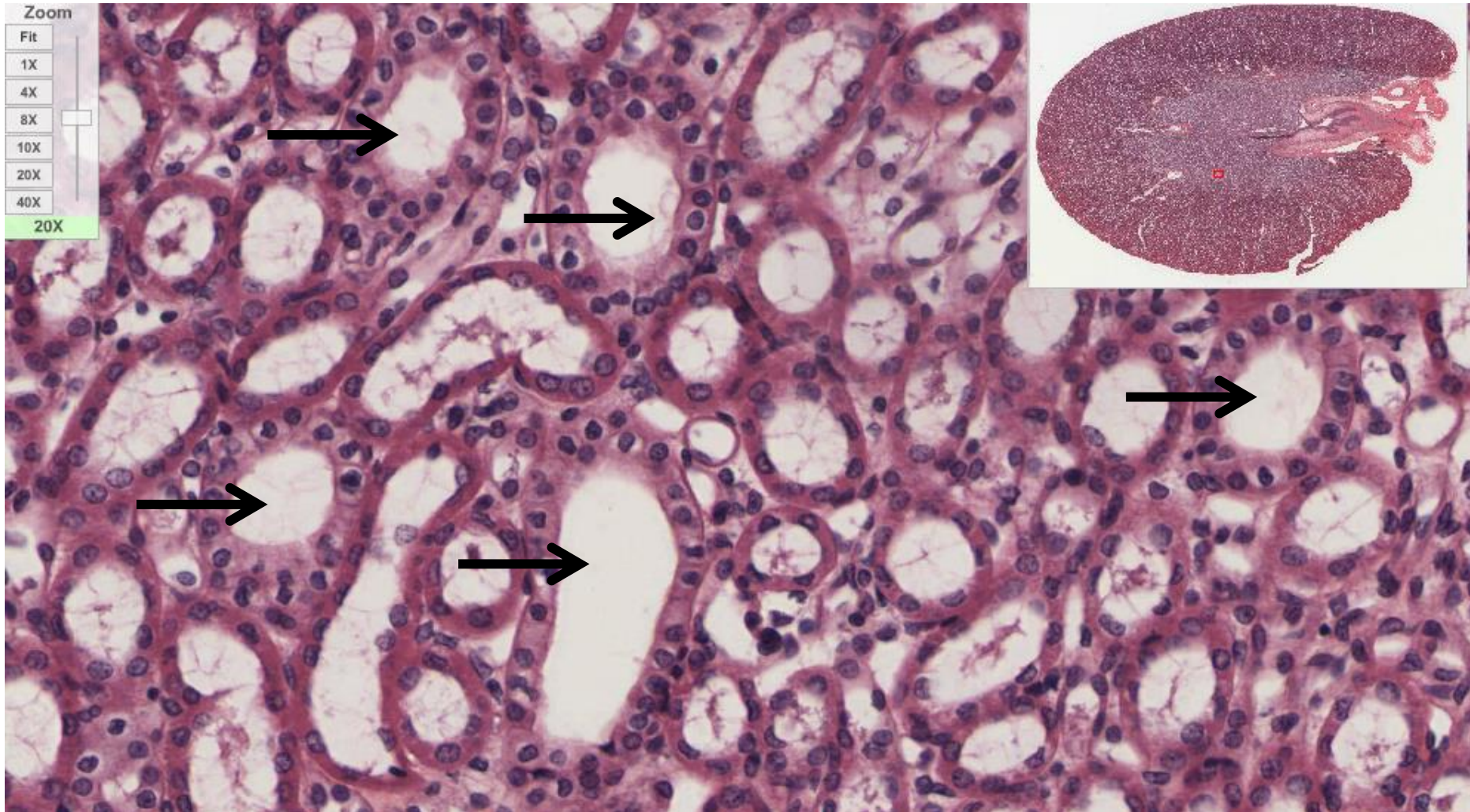
Varios túbulos distales confluyen a la primera parte de éste sistema

Conducto colector

Transportan y modifican el ultra filtrado glomerular

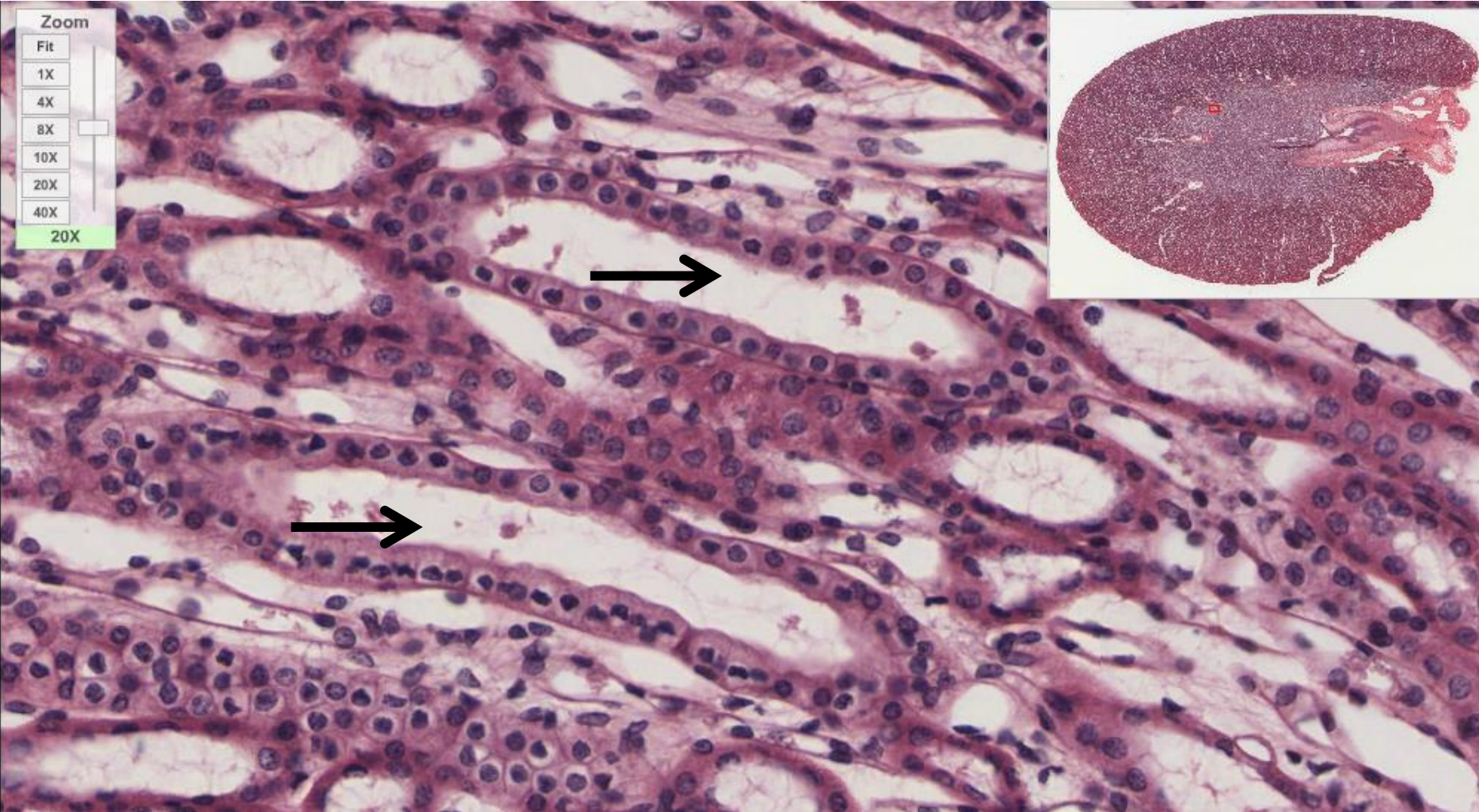
Sistema colector

Conducto colector



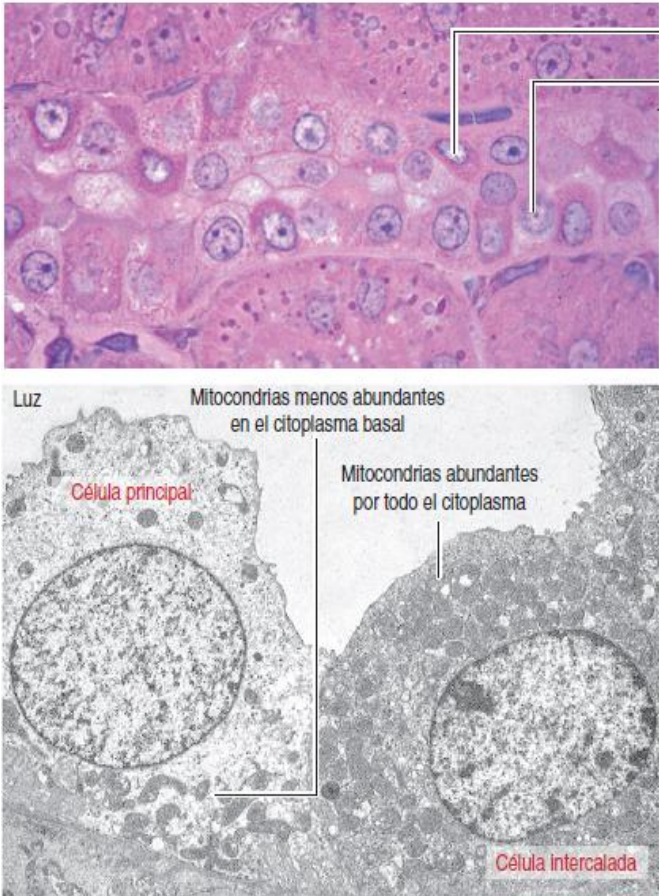
Sistema colector

Conducto colector



Sistema colector

Conducto colector



Células

Principales

Cilio inmóvil- sensor

Reabsorben agua, Na, secretan K⁺

Intercaladas

Microvellosidades

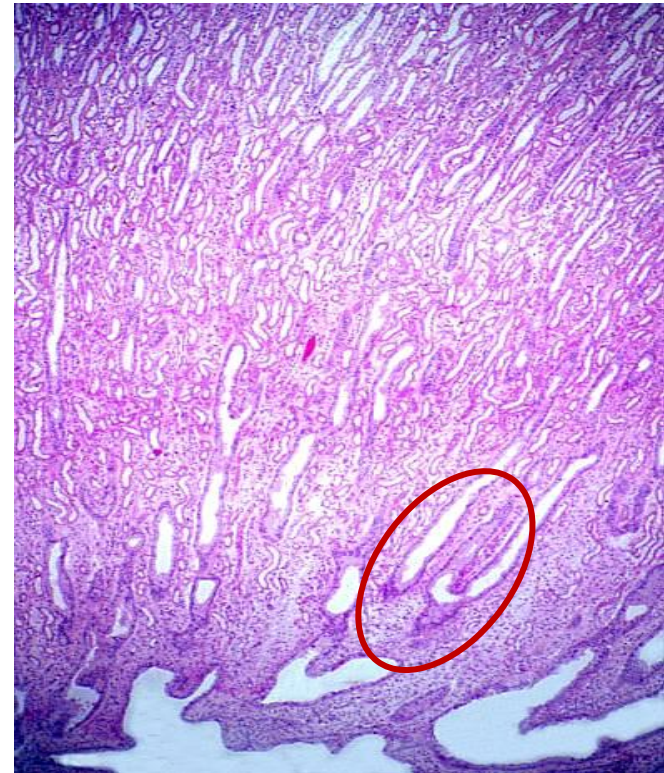
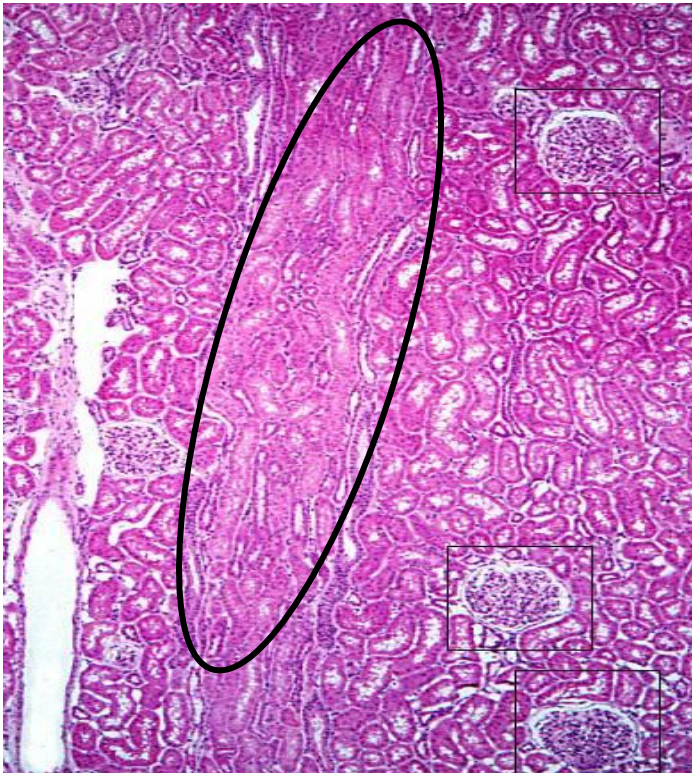
Secretan H⁺ y HCO₃⁻, reguladores equilibrio ácido base

Sistema colector

Conducto colector

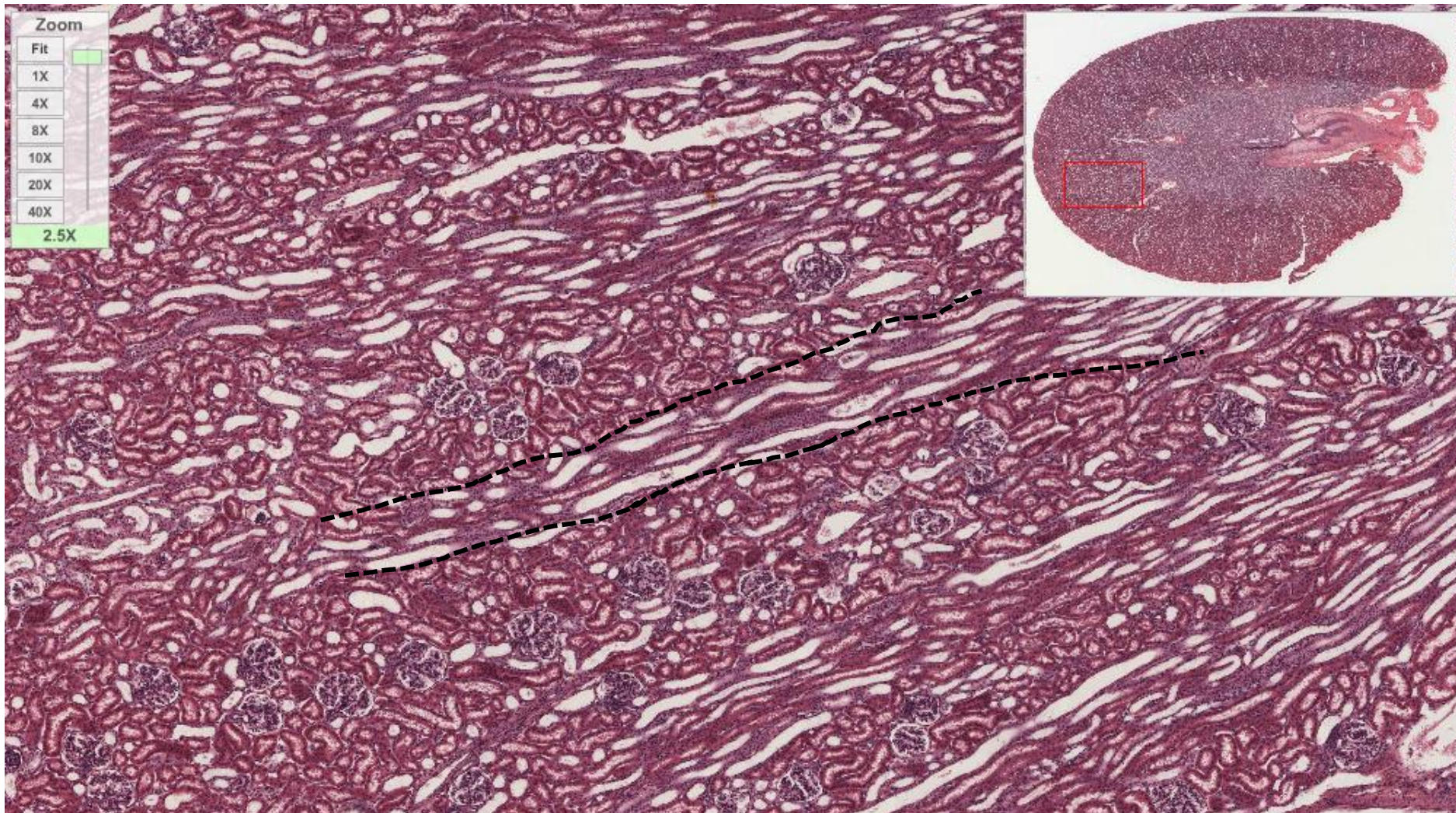
Corteza : rayos medulares

Médula: conductos de Bellini



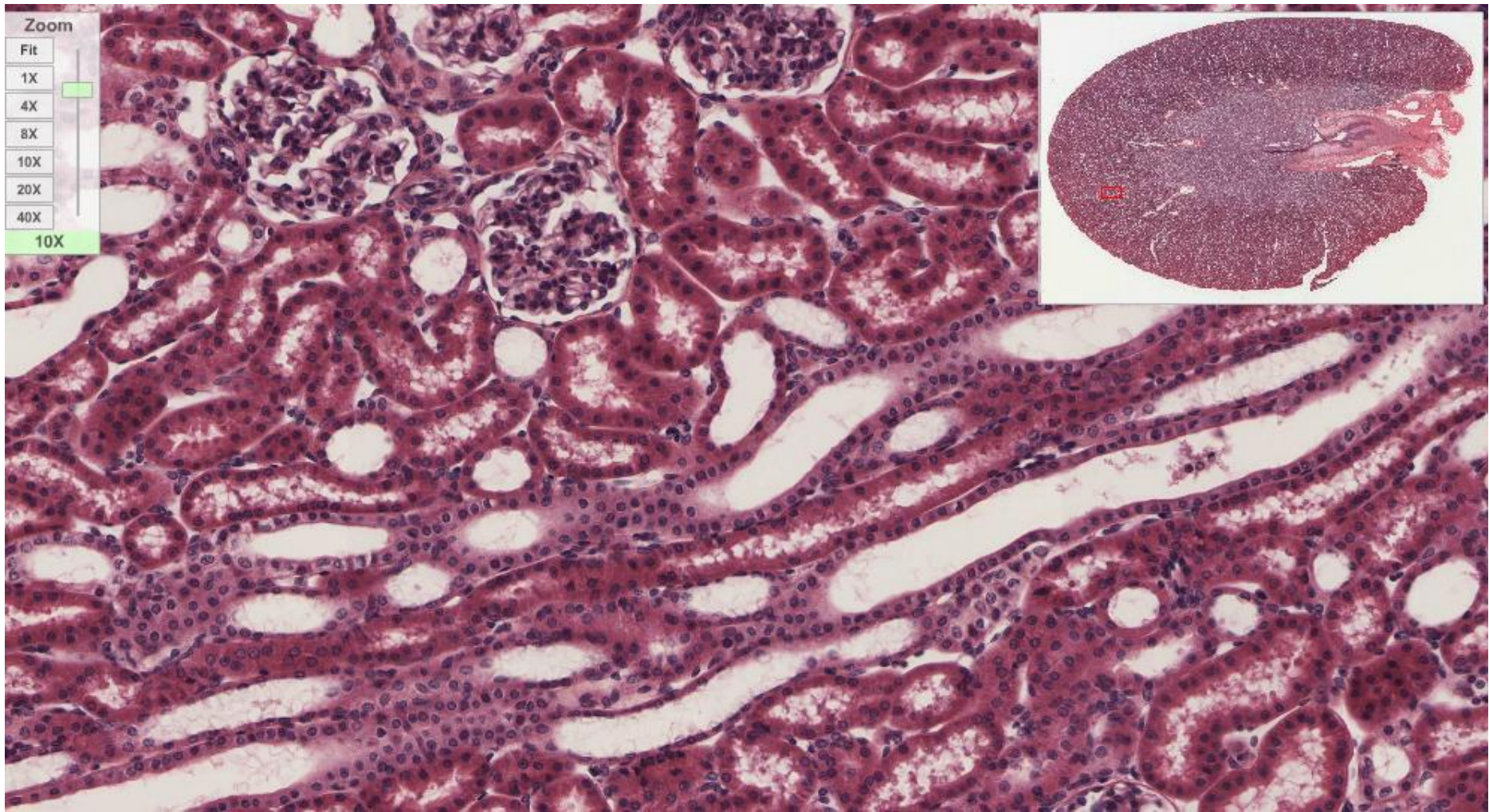
Sistema colector

Rayos medulares



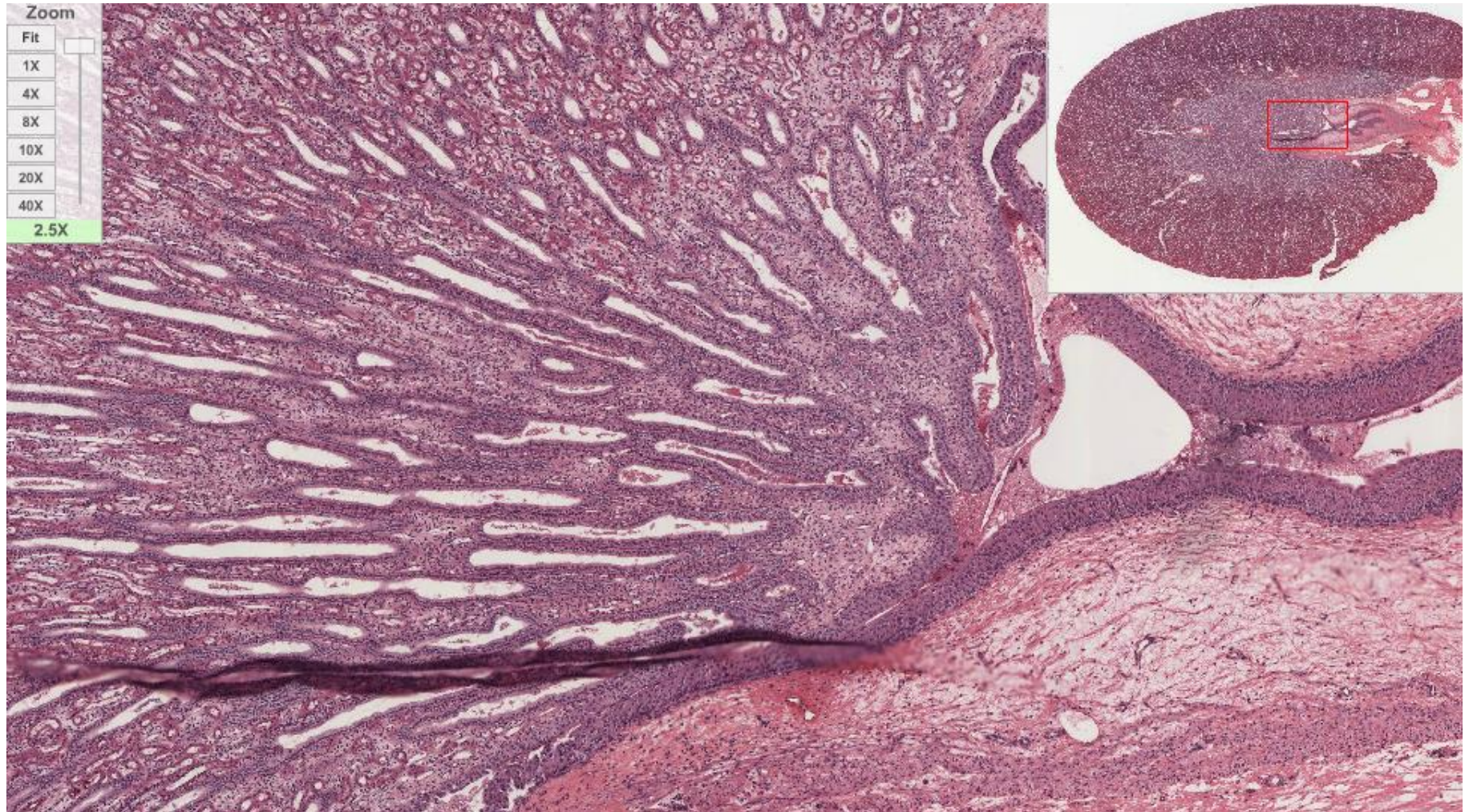
Sistema colector

Rayos medulares



Sistema colector

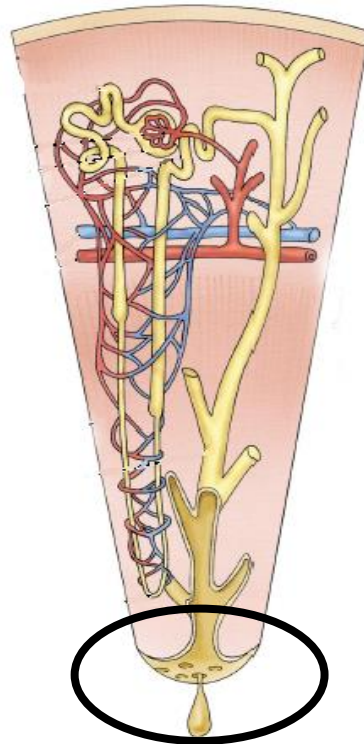
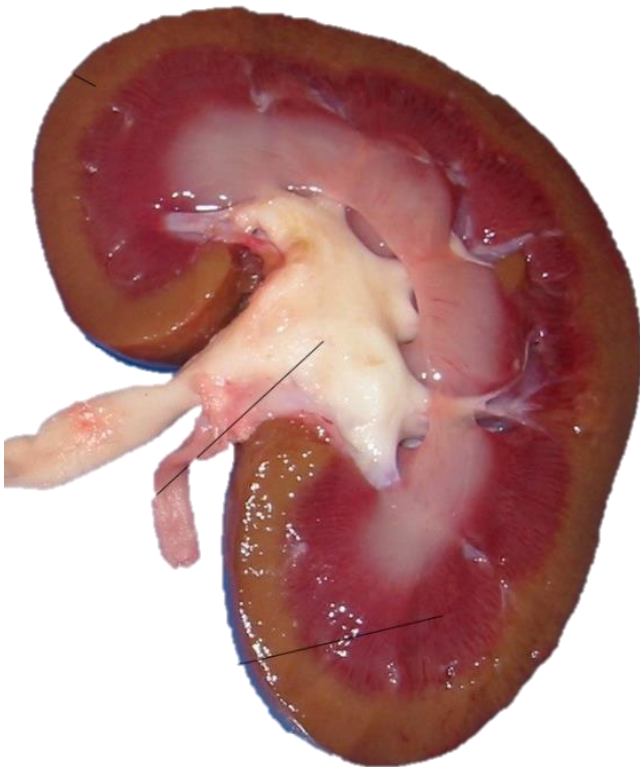
Conductos de Bellini



Sistema colector

Conducto colector

Los conductos de Bellini confluyen a la papila, conformando el **área cribosa**



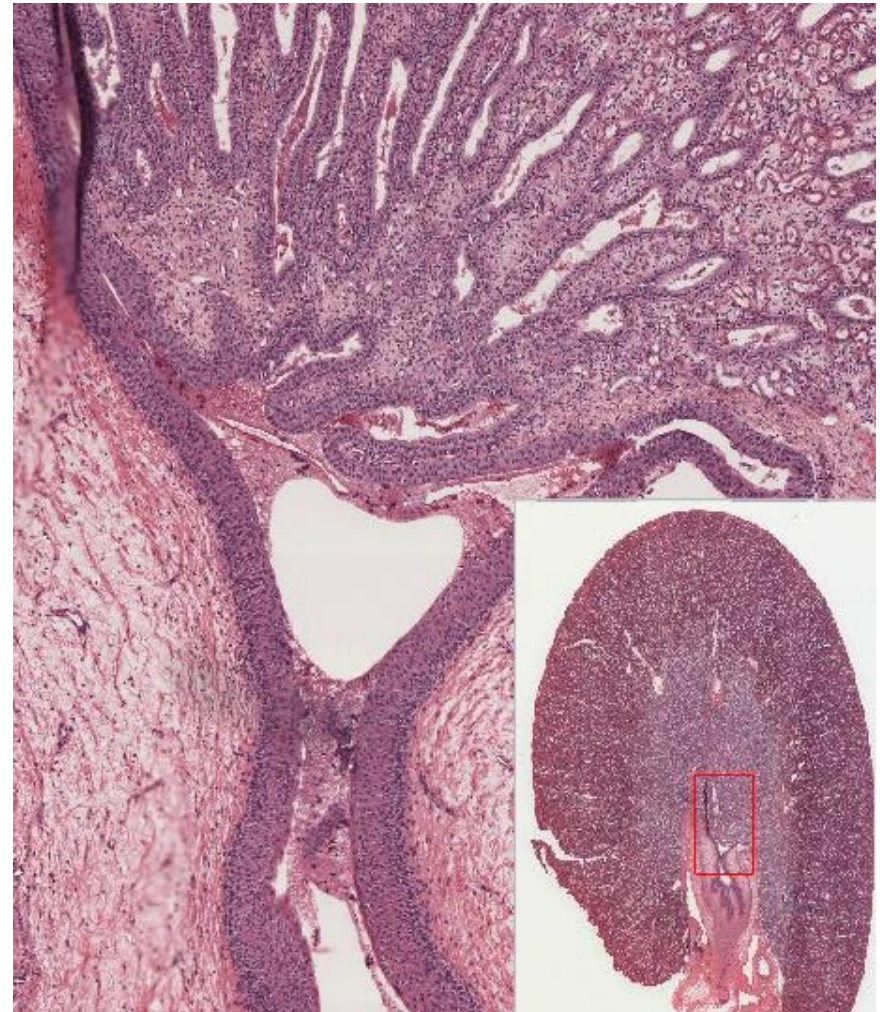
Vías excretoras del sistema urinario

Porción Pelvis- Cálices

Estructura histológica

- Mucosa
 - Muscular
 - Adventicia
-
- **Epitelio transicional**
Pocas capas celulares
 - **Lámina propia**
Conectivo laxo

Inicio de la capa muscular lisa



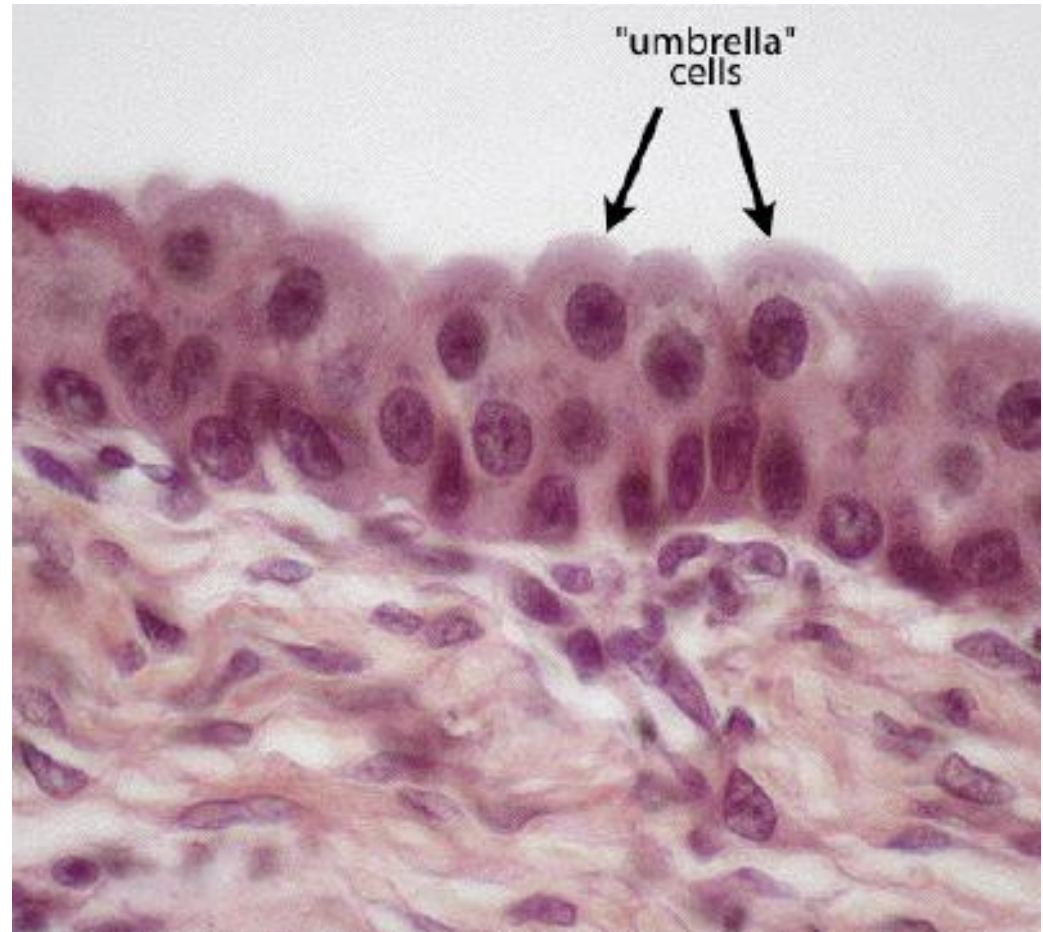
Vías excretoras del sistema urinario

Porción Pelvis- Cálices

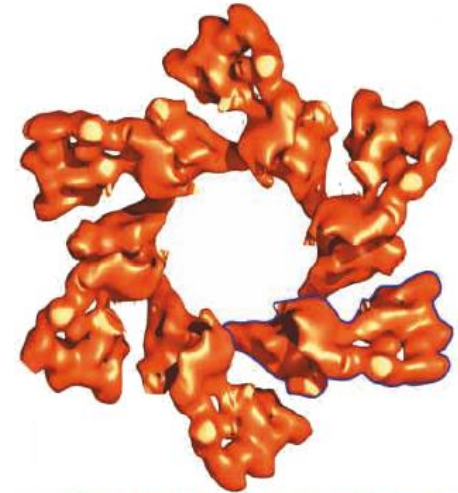
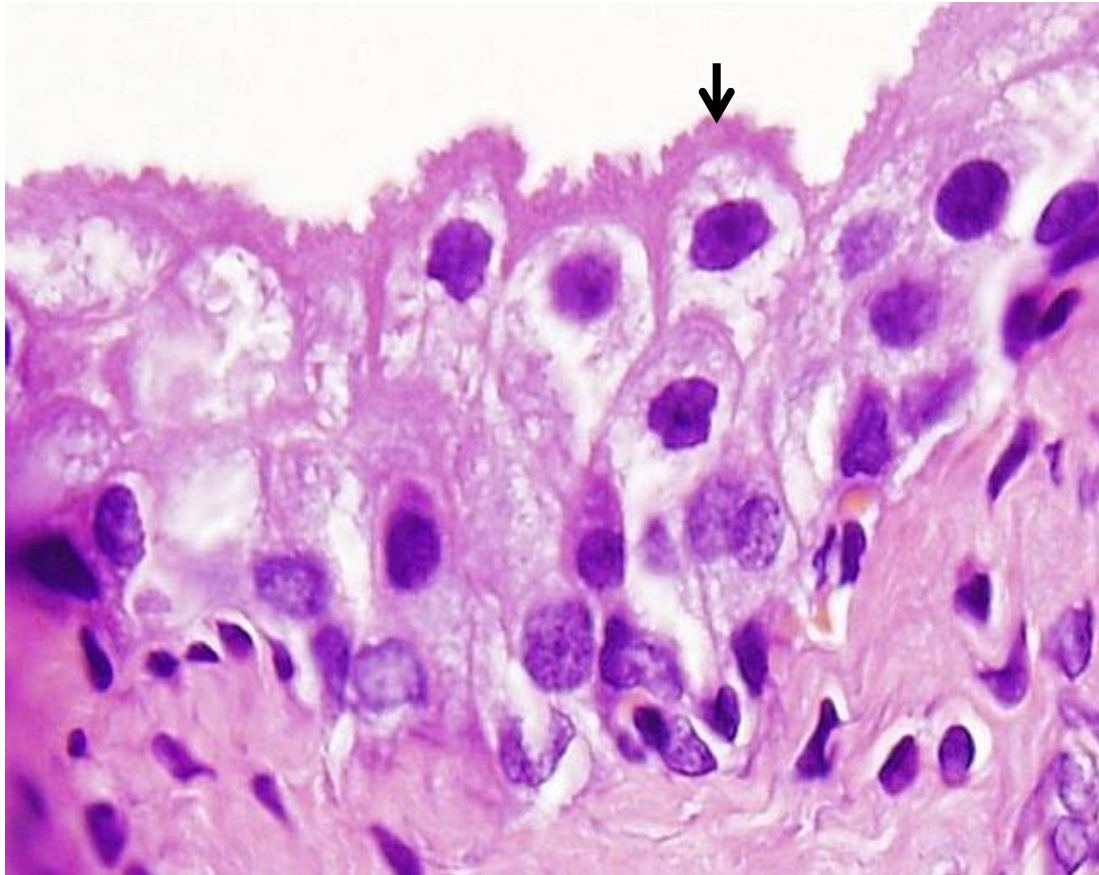
Estructura histológica

- Mucosa
 - Muscular
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-
- **Epitelio transicional**
Pocas capas celulares
 - **Lámina propia**
Conectivo laxo

Inicio de la capa muscular lisa



Uroplaquinas



Proteínas transmembranales, aumentar la rigidez de la membrana organizando lípidos en el exterior de la bicapa para evitar que el agua penetre

Uréter

1. Túnica mucosa

- Presenta pliegues
- Epitelio Transicional -urotelio
- Lámina propia
 - Conectivo moderadamente denso

2. Muscular

Dos capas de músculo liso

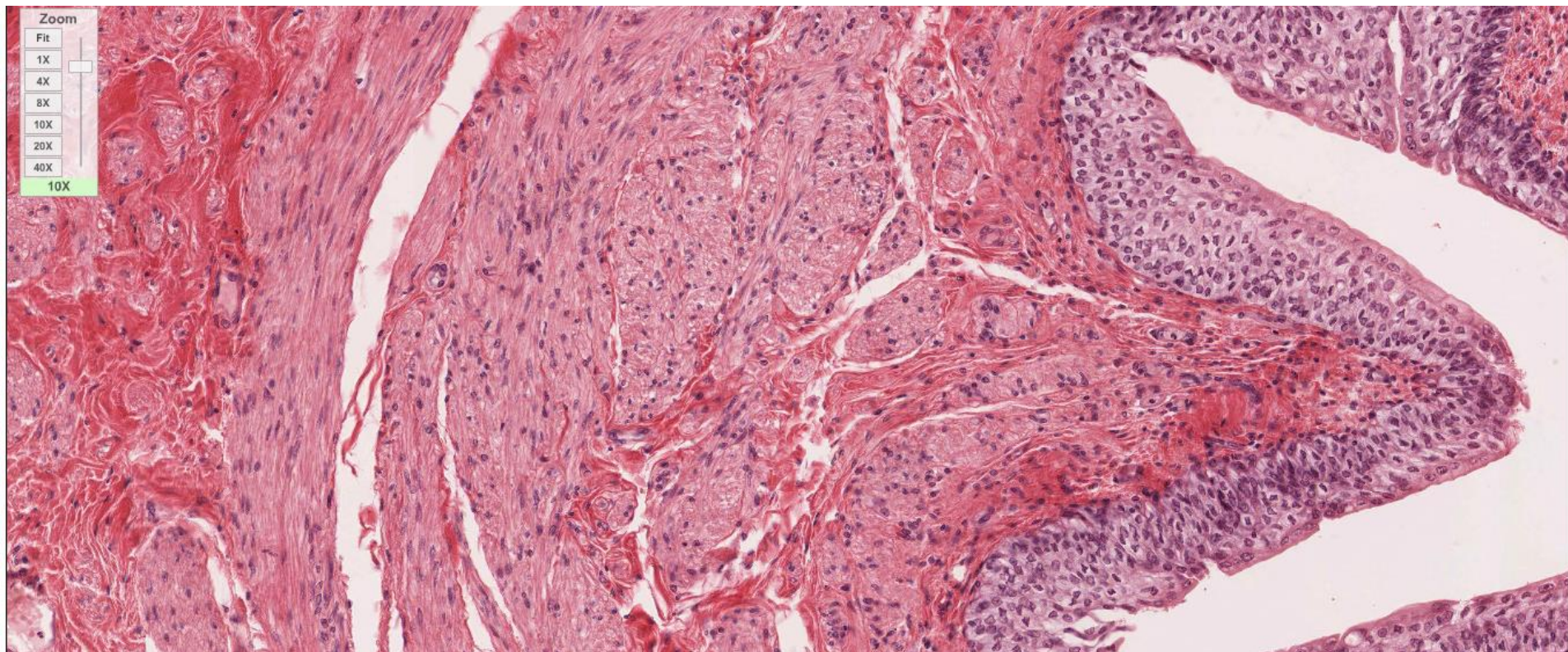
- Longitudinal interna
- Circular media
- Longitudinal externa*

3. Túnica adventicia



24-34 cm

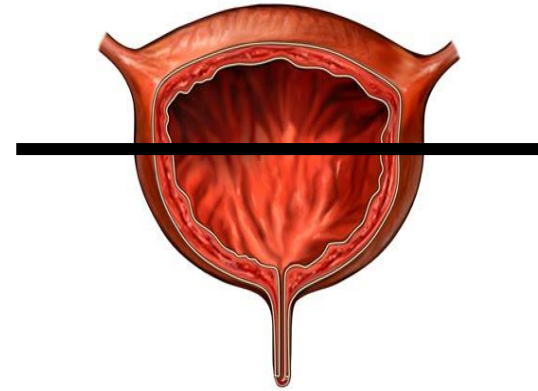
Uréter



Vejiga

1. Túnica mucosa

- Epitelio Transicional -urotelio
- Lámina propia
 - Tejido Conectivo laxo
 - Tejido conectivo denso

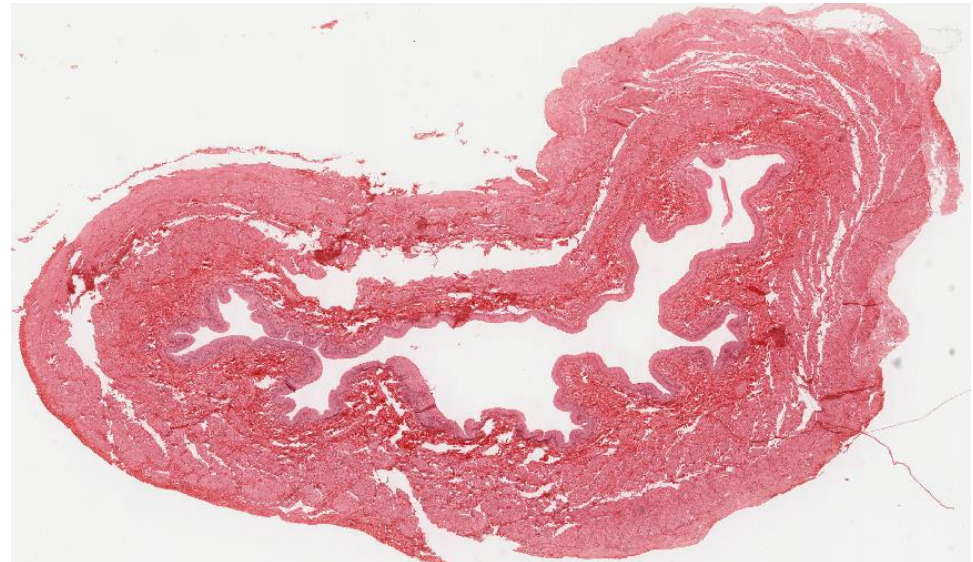


2. Muscular o músculo detrusor

Tres capas de músculo liso

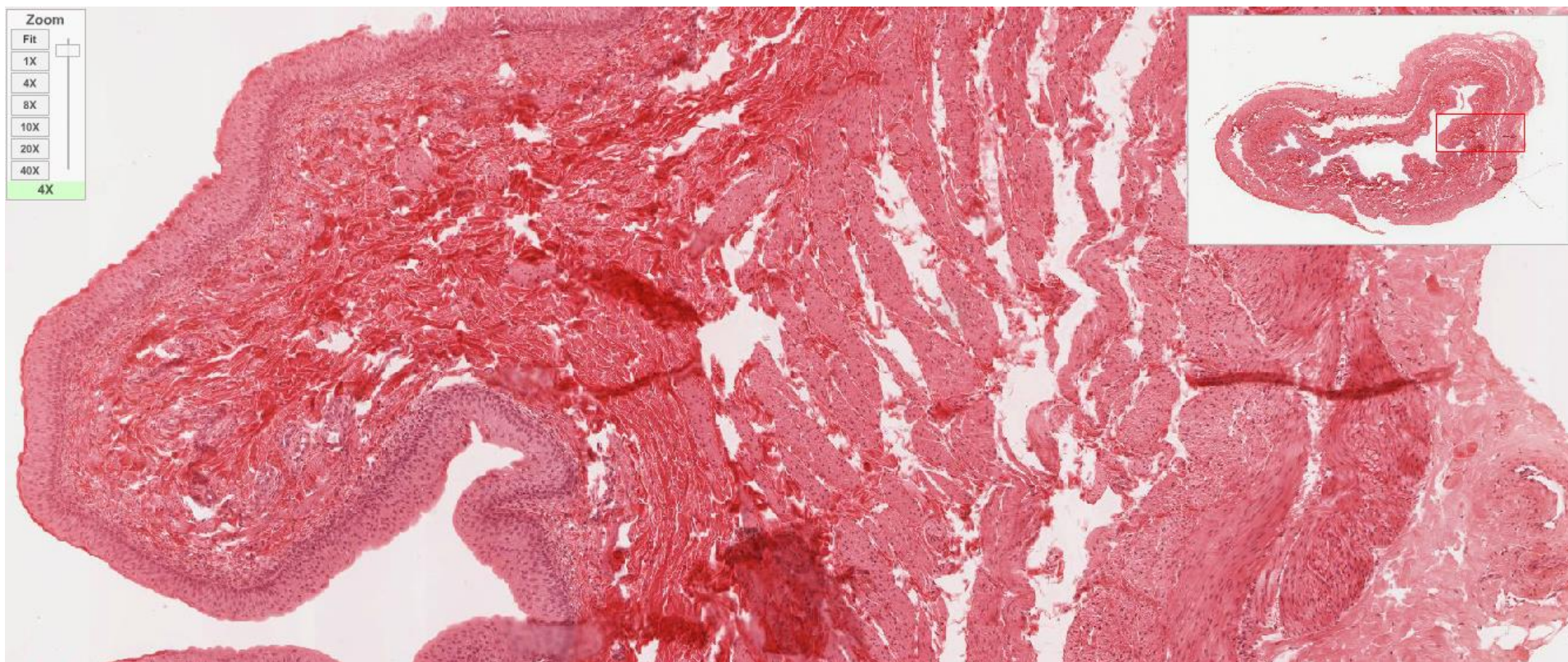
- Longitudinal interna
- Circular media- **esfínter**
- Longitudinal externa

3. Túnica adventicia y serosa



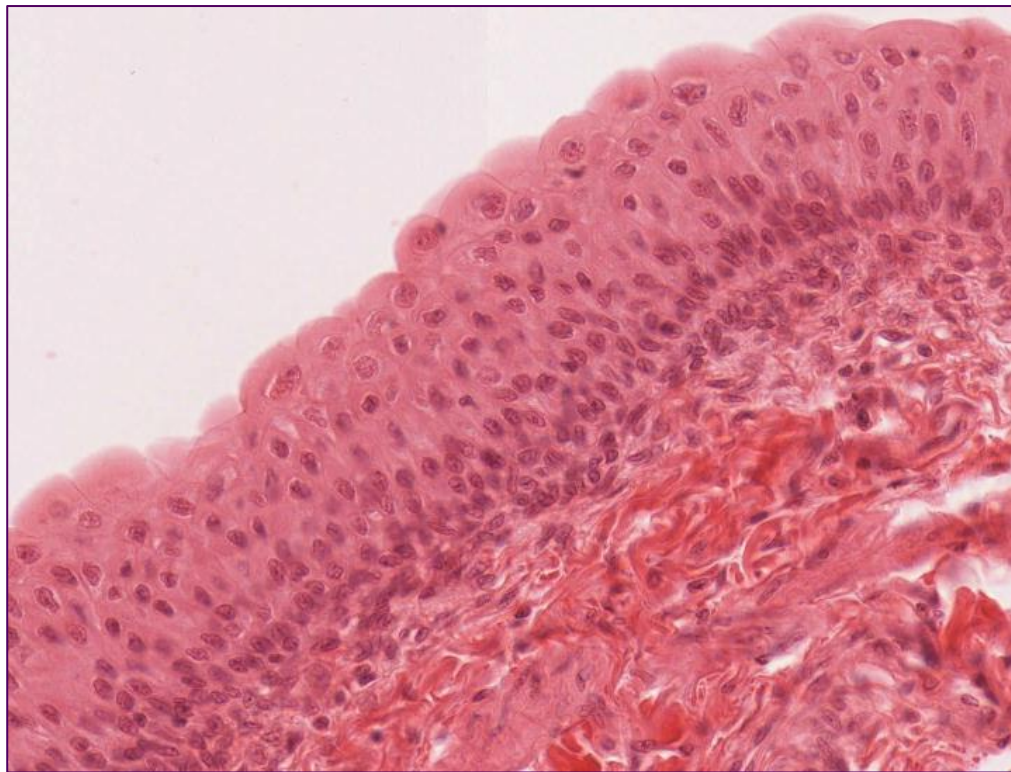
Función :Reservorio de orina

Vejiga

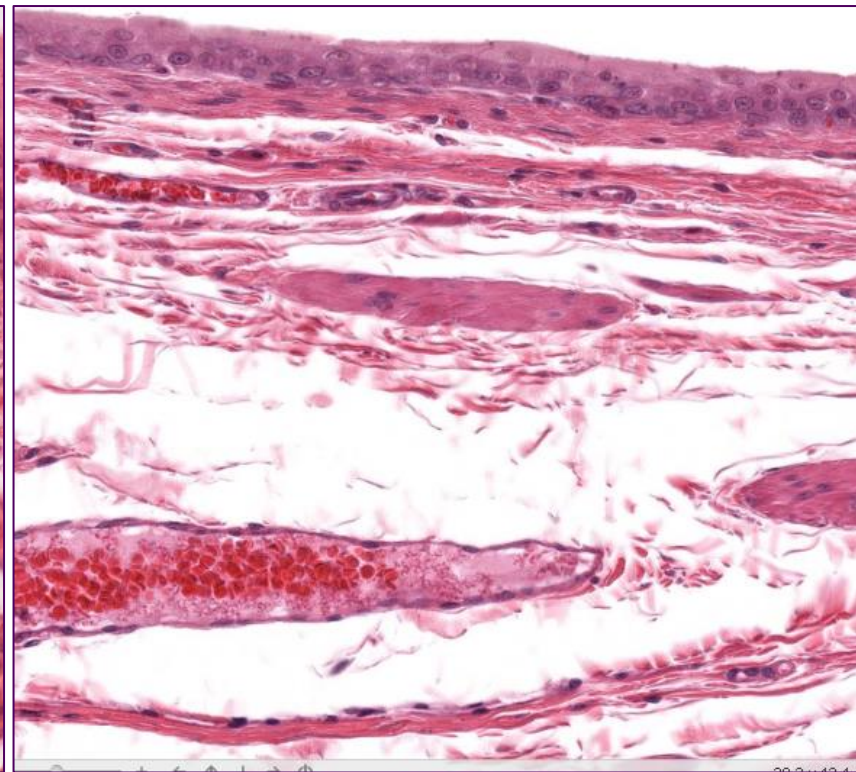


Vejiga

Relajada



Distendida



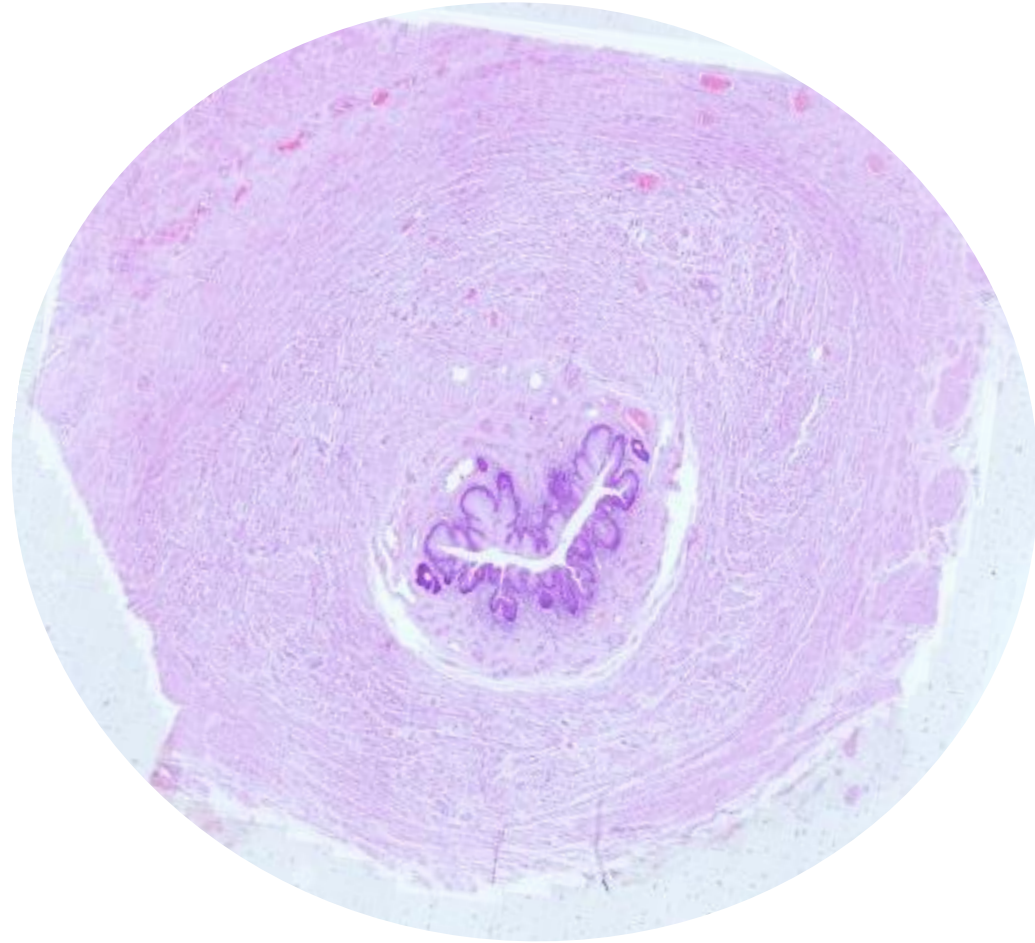
Uretra

- Conduce la orina de la vejiga al exterior
- Características anatómicas diferentes
 - Uretra masculina
 - Uretra femenina

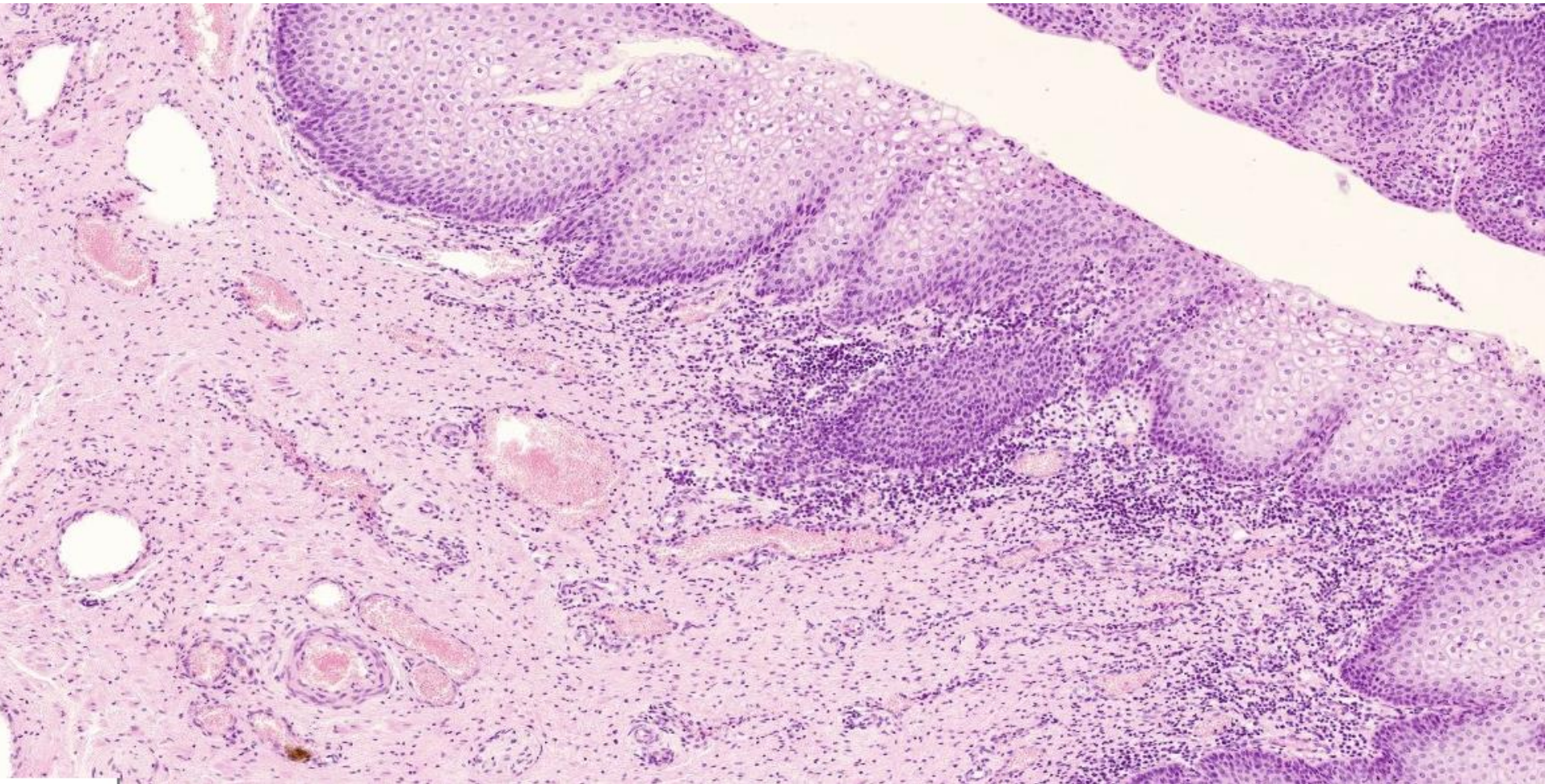


Uretra femenina

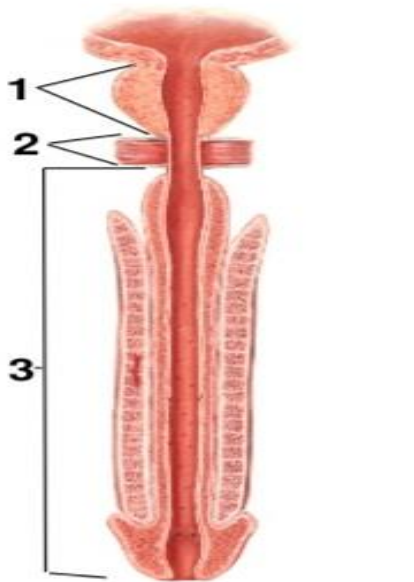
- 4 a 5 cm de longitud
- 5 - 6 mm diámetro
- Mucosa plegada
 - Glándulas uretrales y parauretrales
 - Lámina propia fibro-elástica
- Músculo liso: longitudinal
- Estriado : esfínter



Uretra femenina



Uretra masculina



1 - Parte prostática
2 - Parte membranosa*
3 - Parte esponjosa

12-20 cm

1. Prostática

- Epitelio transicional
- Desembocan los conductos eyaculadores y conductos excretores de la próstata

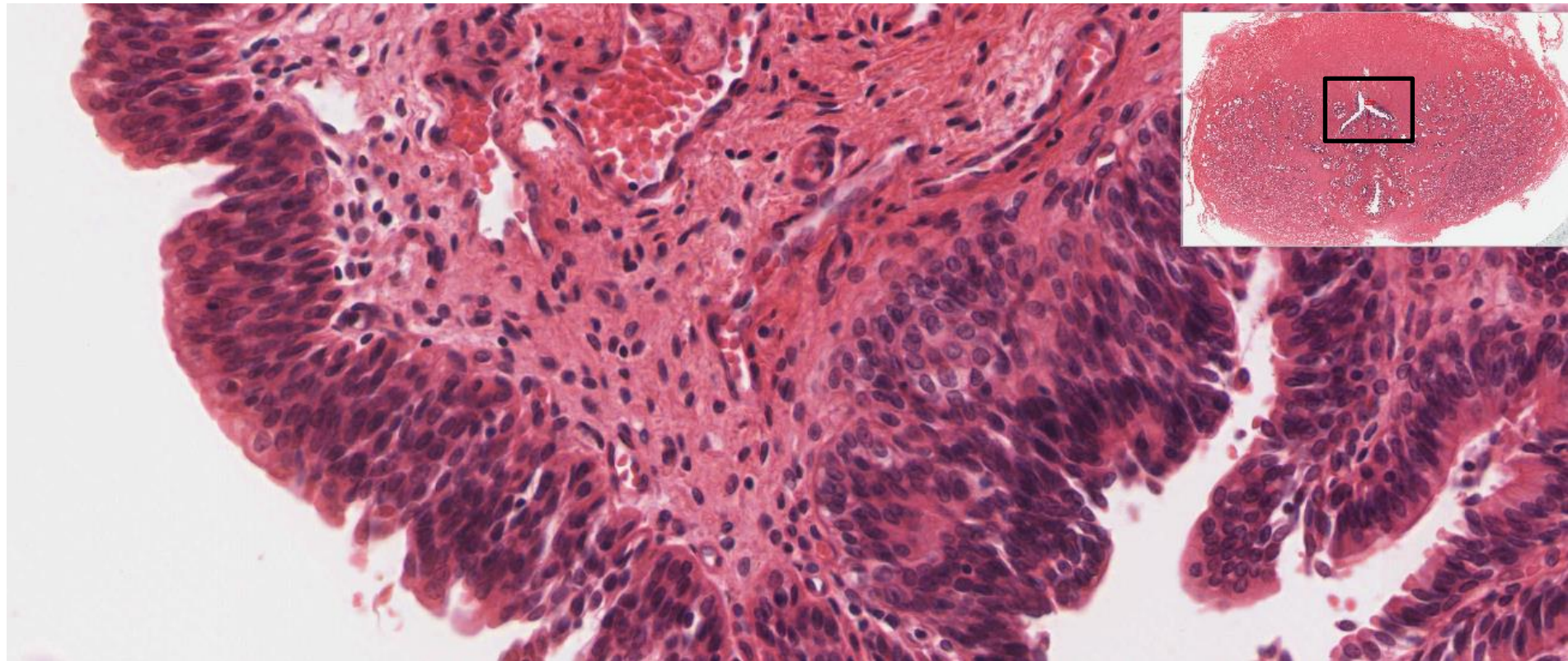
2. Membranosa

- Desde la próstata hasta el bulbo del pene
- Epitelio cilíndrico estratificado

3. Peneana

- Transición entre epitelio cilíndrico estratificado, cilíndrico pseudoestratificado y plano estratificado mucoso

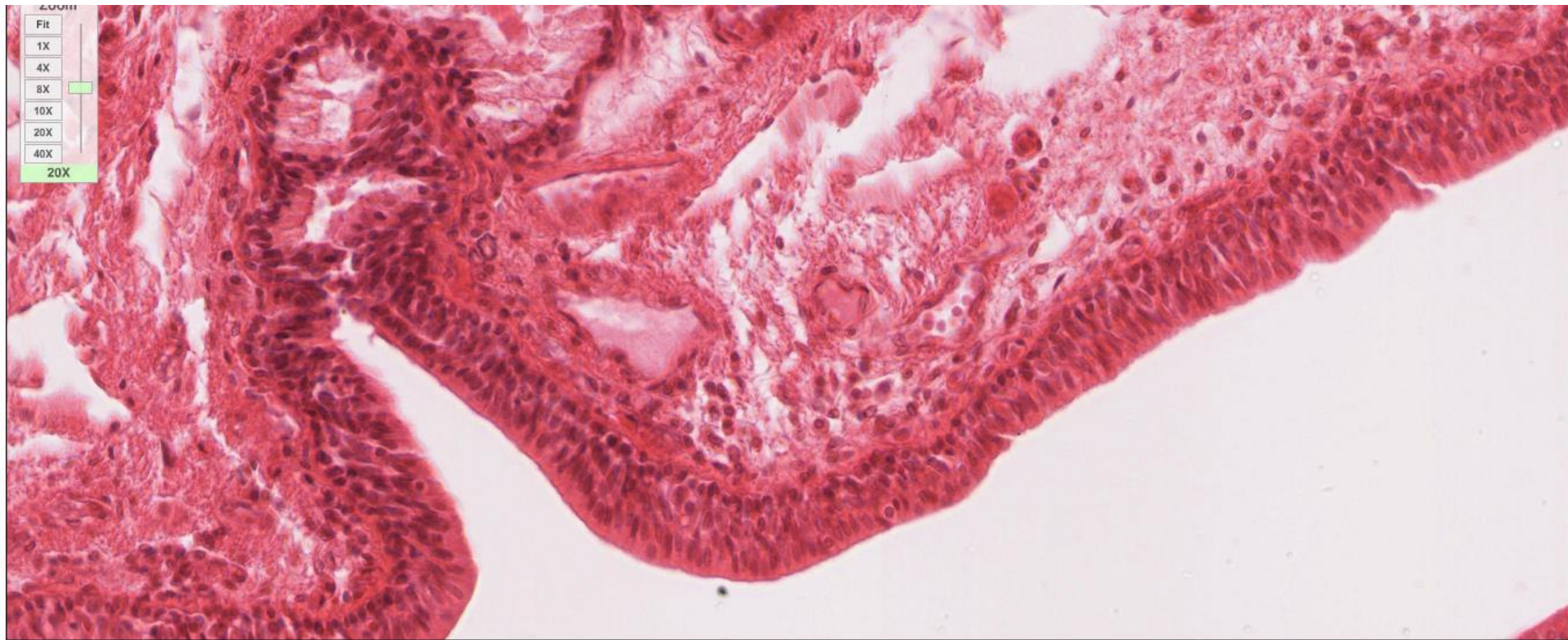
Uretra masculina -porción prostática



Uretra masculina – peneana



Uretra masculina – peneana



GRACIAS